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Section, *Medicine.*

No. 430.



THE
WORKS
OF
THOMAS SYDENHAM, M. D.
ON
ACUTE AND CHRONIC DISEASES;
WITH THEIR
HISTORIES AND MODES OF CURE.

WITH NOTES,

INTENDED TO ACCOMMODATE THEM TO THE PRESENT STATE OF
MEDICINE, AND TO THE CLIMATE AND DISEASES OF THE
UNITED STATES,

BY BENJAMIN RUSH, M. D.

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CLINICAL PRACTICE, IN THE UNIVERSITY OF PENNSYLVANIA.

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DISTRICT OF PENNSYLVANIA, TO WIT :

Be it remembered, that on the fourteenth day of September, in the thirty-fourth year of the Independence of the United States of America, A. D. 1809, Benjamin and Thomas Kite, of the said district, have deposited in this office the title of a book, the right whereof they claim as proprietors, in the words following, to wit :

“ The Works of Thomas Sydenham, M. D., on Acute and Chronic Diseases ; with their Histories and Modes of Cure. With Notes, intended to accommodate them to the Present State of Medicine, and to the Climate and Diseases of the United States, by Benjamin Rush, M. D. Professor of the Institutes and Practice of Medicine, and of Clinical Practice, in the University of Pennsylvania.”

In conformity to the act of the congress of the United States, intituled, “ An act for the encouragement of learning, by securing the copies of maps, charts, and books to the authors and proprietors of such copies, during the times therein mentioned;” and also to the act intituled “An act supplementary to an act, intituled, ‘ An act for the encouragement of learning, by securing the copies of maps, charts, and books to the authors and proprietors of such copies during the times therein mentioned,’ and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints.”

D. CALDWELL,

Clerk of the District of Pennsylvania.

DEDICATION.

TO

THE STUDENTS OF MEDICINE

IN THE

UNIVERSITY OF PENNSYLVANIA.

GENTLEMEN,

THE works of Dr. Sydenham are singular, in being alike celebrated and neglected by modern physicians. They owe their fame, to the many invaluable truths that are contained in them ; and the neglect with which they have been treated, to certain errors, which have been refuted by modern discoveries and improvements in medicine.

The design of this edition of the doctor's works, is to revive and enforce those truths, and to enumerate those errors, so as to guard against their influence in practice. It is true, this has been done by Dr. Wallis and Dr. Swan, in their learned and elaborate notes ; but those notes are adapted to the climate and modes of practice of Great Britain and other European countries. They do not apply to the diseases of our country, nor to the practice which is accommodated to them ; on the contrary, they are calculated to lessen the confidence of the reader in some of those prescriptions of our author that are suited to our diseases, and which derive their peculiar charac-

ter from the sameness of the diet and manners of the inhabitants of Great Britain about the middle of the 17th century, and of the present inhabitants of the United States. They are moreover composed of such numerous quotations from medical books, as to render them a system of the practice of physic, rather than short and practical illustrations of the truths and errors of the author.

The principal errors in this work appear to be the following :

1. A general belief in the salutary operations of nature in diseases.

2. A belief in morbid matter as the cause of diseases, and in the hypothetical doctrines of " fermentation," " ebullition," " digestion," " separation," " despumation," and " expulsion," of this morbid matter, in order to cure those diseases.

3. A belief in the practicability of dividing and distinguishing diseases by certain marks, such as characterize plants and animals, and which have since been attempted by Vogel, Segar, Linuæus, Sauvage, and Cullen. Happily for our science, the doctor has furnished us, in his history of the combinations of epidemics, and of the changes of diseases into each other, with a complete refutation of this error.

4. I consider our authors's definition of a disease to be erroneous, viz. that it is " a vigorous effort of nature to throw off morbid matter, and thus to recover the patient;" instead of which I believe a disease, to use the definition he has rejected, to consist " in the confused and irregular operations of disordered and debilitated nature."

5. The preference which our author has given of vegetable to mineral remedies, is an error which has been refuted by the immense aids which medicine has lately derived from the mineral kingdom.

6. His belief in a specific remedy for the gout, is an error which has tended very much to restrain free inquiry into the nature and cure of that disease.

7. His belief in the contagiousness of the plague, has been proved to be erroneous by the observations of many physicians, particularly by Dr. John Pringle and Dr. Pye, in the beginning of the last century, and by several of the physicians who accompanied the French and British armies in their expeditions to Egypt, in the year 1798.

8. Many of our author's recipes are founded in an erroneous belief in the efficacy of certain simples, which experience has proved not to possess any virtues, and which, if they did, would be rendered inert by their indiscriminate mixture with each other.

9. Among the errors of our author, should be mentioned, his belief in the exclusive benefits of experience, and his rejection of theory, or reasoning in medicine. This error is the more to be regretted, as the doctor reasons nearly in every page of his writings, and thereby establishes an important truth, and that is, that to reason, or theorize in medicine, is not only a natural, but an involuntary exercise of the faculties of the mind.

Some other errors of less importance, shall be enumerated in the notes.

Let not the advocates for the fame of Dr. Sydenham, complain of the number of the errors in his writings which

have been, or which may be mentioned. They were perhaps wisely permitted to restrain pride in intellectual gifts and attainments, and to console the physicians of succeeding ages for his singular pre-eminence over them, in every department of practical medicine.

Should it be asked how it was possible for such practical truths to exert a salutary influence in medicine, when combined with the errors that have been noticed? I would answer, by first remarking, that we sometimes observe strong and correct moral propensities and habits, to exist in the same mind, with the grossest errors in religion. In like manner, the uncommon strength and correctness of Dr. Sydenham's talents for observation and reasoning, habitually, and as it were necessarily exerting themselves in his intercourse with diseases, rendered his practice successful, in spite of the counter influence of the erroneous principles of medicine in which he had been educated.

To enumerate the many truths that are contained in the following work, would be to transcribe, with the exception of a few pages, nearly every part of it. His histories of acute diseases; his details of the laws of epidemics; his intuitive discernment of old diseases, entangled in new ones; his defence of cool air, and of depleting remedies, to which millions owe their lives; his sagacity in discovering the precise time, and manner of administering his remedies, and the difference of his practice in the same disease in different seasons, constitute a galaxy of medical knowledge, and mark that rare assemblage of discriminating and combining talents, which

have elevated him above the claims of the century and nation in which he lived, and rendered him the physician of all ages and countries. The same talents, employed upon subjects of more general and popular inquiry, would probably have placed him upon the same grade with sir Isaac Newton, in a scale of human intellect.

To dispose you still more to appreciate the work which I have the pleasure to inscribe to you, permit me to add, that it is the anchor which has saved our science for more than a century, when it has been driven from its moorings, by erroneous theories, and even by those of our author, as well as of other men. It has moreover been held in the highest esteem by the most distinguished physicians in every part of the world. Dr. Boerhaave has celebrated it in an elegant Latin oration. Dr. Haller has enriched his *Bibliotheca Medicinæ* with copious extracts from it. Vanswieten's Commentaries upon Dr. Boerhaave's aphorisms owe much of their usefulness to the numerous quotations from it, which he has blended with his account of acute diseases. Dr. Stoll, of Vienna, complained of medicine being a chaos, until he met with Dr. Sydenham's works, which soon changed its apparent darkness and confusion into light and order.

His British annotators, Dr Wallis and Dr Swan, seem to have vied with each other in their commendations of them. In the preface of the former to his edition of them, he says, "they have past the ordeal trial, and stood, unshaken, the test of time, notwithstanding the various doctrines which have crowded into the medical schools, and dropt into oblivion since their first appearance. His writings were the result of observation,

and his labours founded on experience; and though he has wandered now and then in the field of speculation, his guide has been simple facts, contending to support certain positions *à posteriori* by plain reasoning, rather than attempting to prove *à priori* what would be the result of some imaginary principles; hence, though his arguments may be fallacious, his conclusions cannot be mischievous; because he first enumerates the symptoms of the disease as they appear, then watches the progress, and points out the different modes which have been successful in the different periods. And thus he forms the basis of his practice, exercising his reasoning powers in accounting for the mode in which nature performs the process; or making probable conjectures at the offending cause, how it originates and proceeds, adhering rigidly still to the methods of which experiment has proved the propriety. . . . Indeed, so convinced have later times been of the validity and accuracy of his descriptions, that they are considered as the unrivalled delineations of nature; so universally have they been esteemed for their exactitude and truth, that poets never made freer use of, or stole more from HOMER, PINDAR, or VIRGIL; satyrists from JUVENAL, PERSIUS, or HORACE; orators from DEMOSTHENES, QUINTILIAN, or CICERO; nor dramatists from SHAKSPEARE, than physicians have from SYDENHAM."

Respectful as this eulogium is, upon our author's works, it is not surpassed by Dr. Swan's. After taking notice of the envy and malevolence to which Dr. Sydenham's discoveries had exposed him from some of his contemporary physicians, he subjoins the following remarks;

“ But posterity has made it up to him since his death ; for no one, the great Hippocrates himself not excepted, ever stood possessed of a fairer reputation, than he has since enjoyed, and still bears: his judgment, integrity, and candour are universally acknowledged and applauded. The physicians of our own country have recourse to his writings as an oracle, and foreigners never mention him without the most honourable titles: to sum all in one, many of them call him the British Hippocrates.”

To these testimonies in favour of Dr. Sydenham's works by physicians, I shall add one in favour of his genius, by his cotemporary and friend Mr. Locke. In the preface to his Essay upon the Human Understanding, he classes him with the illustrious Mr. Boyle, as a “ master builder in the commonwealth of learning, whose mighty designs in advancing the sciences, will leave lasting monuments to the admiration of posterity.” And in the conclusion of some elegant Latin verses, which he addressed to him, upon the publication of his Treatise upon Fevers, he tells him, after having extinguished febrile fires, it will require the “ same fire to destroy his fame, which will consume the globe.”

With all the praise that has been thus lavished upon Dr Sydenham's works, it is highly probable future generations will esteem them more than the generations that have existed between the time of their publication, and the present day ; for I have no doubt, they contain many apparently useless facts, which will be extensively and successfully applied to the cure of diseases, under the influence of just theories in medicine. I infer this, from several of those which have lately been admitted in our

science, having, like the prism which renders objects visible that had pre-existed in an invisible state, already had that effect. I shall briefly mention a few of those theories and facts. A belief in the sedative operation of cold, has rendered popular, Dr. Sydenham's application of it as a remedy in inflammatory fevers. A belief in the stimulating powers of opium, has revived his liberal use of that excellent medicine in all diseases of weak morbid action. A belief in the modern doctrine of what has been called indirect debility, or in the depression and weakness of the system from an excess of stimulus, has established his bold and paradoxical practice, of imparting strength to the body by abstracting blood and other fluids from it, and a belief in life being the effect of impressions only, by directing the attention of physicians to the diurnal revolutions of the system, has shown the propriety of his fixing the precise times for the exhibition of opium, and for the hours of refreshment, sleep, and exercise in certain acute and chronic diseases. It is from an expectation that time will thus continue to bring to light latent and useful truths in Dr. Sydenham's works, that I have preferred publishing the whole, to an abridgment of them. lest parts which are now supposed to be uninteresting, should escape the chance of forming the basis or support of future principles in medicine.

After this account of the great value of the book I have put into your hands, it will hardly be necessary to suggest to you, that it should not barely be read. It should be studied; for there is the same difference between reading and study, that there is between exercise and labour. It should afterwards be read over and over, if you expect

to profit by it. It should likewise occupy, in sickly seasons, a place in your parlour window, in order to be consulted more easily in every hour's respite from business. The histories it contains of epidemics, will enable you at such times to contend successfully with similar diseases; for they as far exceed the abstract treatises upon them which are unrelated to time, situation, and other circumstances that are to be met with in books, as correct and faithful travels exceed systems of geography in teaching us the peculiarities of a foreign country.

The illustrious author of this work, who knew the immense labour with which it was composed, shall furnish a reason for the first part of the above advice. "As to the works I have already published," says he, in his *Treatise upon the Dropsy*, "if a person will give them a *single* reading, I am sorry I should be the means of making him lose his time: but if he will peruse them *often*, and commit them to memory, I dare say, he will reap such advantages from them, as may in some measure equal my wish, and the great pains I have been at, in making and compiling them."

Should I, gentlemen, by means of this American edition of those works, become the instrument of procuring a compliance with our author's wishes and advice, by the physicians of the United States, I shall not think I have buried the single talent which was committed to me for the benefit of the health and lives of my fellow-citizens.

You will perceive, I have conformed to Dr. Sydenham, and to modern systems of nosology, by using the plural number of "disease," instead of its singular epithet which I have adopted in my lectures; and that I have not digres-

sed, to explain or defend any of my peculiar principles in medicine, in the occasional references I have made to them in some of the notes. Such a digression would have been foreign to the design of this undertaking, and it is I hope rendered unnecessary, by your previous knowledge of those principles, and by the numerous facts in support of them, which you will find in different parts of the work before you.

You will perceive further, in the practice of Dr. Sydenham in acute diseases, a justification of that practice which was so generally and so virulently opposed, in the treatment of the malignant bilious fever in Philadelphia, in the year 1793. Its universal adoption by its enemies since that time, is a fresh triumph to our author over prejudice and error, and has served to add the laurels of our country, to those of every other part of the world, which have long flourished around his tomb.

I have omitted making any remarks upon the *processus integri*. It was rendered unnecessary from its being an epitome only of the preceding parts of the work.

I shall conclude this mark of my respect for you, by recommending to your imitation the conduct of Dr. Sydenham as a man and a christian, by which he did as much honour to our profession, as he did by his discoveries as a physician. For an account of many of his amiable virtues, I refer you to the history of his life, which is prefixed to this work. From a great number of passages, I shall select but three, from different parts of his writings, as illustrations of the principles of benevolence and self-denial, and of the modest piety which governed his life. "Upon deliberate and equitable reflection," says our au-

thor, "I find it better to assist mankind, than to be commended by them, and highly conducive to tranquillity of mind; popular applause being lighter than a feather, or a bubble, and less substantial than a dream."* "And indeed, provided I discharge the duty of a good citizen, and serve to the prejudice of my private interest, what matters it, if I gain no reputation thereby? For, upon due consideration, my endeavouring to secure a character, who am now advanced in years, will be in a little while like providing for a nonexistence. For what will it avail me after my decease, that the eight letters which compose my name, will be pronounced by those who can no more frame an idea of me in their minds, than I am able to conceive what kind of persons those will be who have no knowledge of their immediate predecessors, and who will perhaps have a different language, and other customs, according to the vicissitudes and fluctuating condition of human affairs?"†

"I will now endeavour," adds the doctor, in another place, "to fulfil my promise, by presenting the public with the history and cure of acute diseases; and though, in executing this design, I am sensible I shall expose all the fruit of my labours, for the best part of my life, to the indolent and the ignorant, yet I am too well acquainted with the disposition of this degenerate age, to expect any thing but censure and contumely in return; and know that I should have gained more reputation by ad-

* Treatise upon the Small-pox.

† Dedication of the Treatise upon Gout and Dropsy, to Dr. Short.

vancing some trifling and useless speculation : but be this as it will, I hope I shall be rewarded elsewhere.”*

With cordial wishes, gentlemen, for your individual happiness, I have great pleasure in subscribing myself,

Very respectfully,

Your sincere friend,

BENJAMIN RUSH.

August 29th, 1809.

* The author's preface

THE LIFE

OF

DR. SYDENHAM.

THOMAS SYDENHAM was born in the year 1634, at Windford Eagle, in Dorsetshire, where his father, William Sydenham, Esq. had a large fortune. Under whose care he was educated, or in what manner he passed his childhood ; whether he made any early discoveries of a genius peculiarly adapted to the study of nature, or gave any presage of his future eminence in medicine, no information is to be obtained. We must, therefore, repress that curiosity which would naturally incline us to watch the first attempts of so vigorous a mind, to pursue it in its childish inquiries, and see it struggling with rustic prejudices, breaking on trifling occasions the shackles of credulity, and giving proofs, in its casual excursions, that it was formed to shake off the yoke of prescription, and dispel the phantoms of hypothesis.

That the strength of Sydenham's understanding, the accuracy of his discernment, and ardour of his curiosity, might have been remarked from his infancy by a diligent observer, there is no reason to doubt. For there is no instance of a man whose history has been minutely related, that did not in every part of life discover the same proportion of intellectual vigour ; but it has been the lot of the greatest part of those who have excelled in science, to be known only by their own writings, and to have left behind them no remembrance of their domestic life or private transactions, or only such memorials of particular

passages as are, on certain occasions, necessarily recorded in public registers.

From these it is discovered, that at the age of eighteen, in 1642, he commenced a commoner of Magdalen Hall in Oxford, where it is not probable that he continued long; he informs us himself, that he was withheld from the university by the commencement of the war; nor is it known in what state of life he engaged, or where he resided, during that long series of public commotion. It is indeed reported, that he had a commission in the king's army; but no particular account is given of his military conduct; nor are we told what rank he obtained when he entered into the army, or when, or on what occasion, he retired from it.

It is, however, certain, that if ever he took upon him the profession of arms, he spent but few years in the camp; for, in 1648, he obtained at Oxford the degree of bachelor of physic, for which, as some medicinal knowledge is necessary, it may be imagined that he spent some time in qualifying himself.

His application to the study of physic was, as he himself relates, produced by an accidental acquaintance with Dr. Cox, a physician eminent at that time in London, who in some sickness prescribed to his brother, and attending him frequently on that occasion, inquired of him what profession he intended to follow; the young man telling him that he was undetermined, the doctor recommended physic to him; on what account, or with what arguments, it is not related: but his persuasions were so effectual, that Sydenham determined to follow his advice, and retire to Oxford for leisure and opportunity to pursue his studies.

It is evident that this conversation must have happened before his promotion to any degree in physic, because he himself fixes it in the interval of his absence from the university, a circumstance which will enable us to con-

fute many false reports relating to Dr. Sydenham, which have been confidently inculcated, and implicitly believed.

It is the general opinion, that he was made a physician by accident and necessity, and sir Richard Blackmore reports in plain terms, that he engaged in practice without any preparatory study, or previous knowledge, of the medical sciences ; and affirms, that when he was consulted by him what books he should read to qualify him for the same profession, he recommended Don Quixote.

That he recommended Don Quixote to Blackmore, we are not allowed to doubt ; but the relator is hindered by that self-love, which dazzles all mankind, from discovering that he might intend a satire very different from a general censure of all the ancient and modern writers on medicine, since he might perhaps mean, either seriously or in jest, to insinuate, that Blackmore was not adapted by nature to the study of physic, and that, whether he should read Cervantes or Hippocrates, he would be equally unqualified for practice, and equally unsuccessful in it.

Whatsoever was his meaning, nothing is more evident than that it was a transient sally of an inclination warmed with gaiety, or the negligent effusion of a mind intent on some other employment, and in haste to dismiss a troublesome intruder ; for it is certain that Sydenham did not think it impossible to write usefully on medicine, because he has himself written upon it ; and it is not probable that he carried his vanity so far, as to imagine that no man had ever acquired the same qualifications besides himself. He could not but know that he rather restored than invented most of his principles, and therefore could not but acknowledge the value of those writers whose doctrine he adopted and enforced.

That he engaged in the practice of physic without any acquaintance with the theory, or knowledge of the opini-

ons or precepts of former writers, is undoubtedly false ; for he declares, that after he had, in pursuance of his conversation with Dr. Cox, determined upon the profession of physic, he applid himself in earnest to it, and spent several years in the university, *aliquot annos in academicâ palæstra*, before he began to practise in London.

Nor was he satisfied with the opportunities of knowledge which Oxford afforded, but travelled to Montpelier, as Desault relates,* in quest of farther information ; Montpelier being at that time the most celebrated school of physic : so far was Sydenham from any contempt of academical institutions, and so far from thinking it reasonable to learn physic by experiments alone, which must necessarily be made at the hazard of life.

What can be demanded beyond this by the most zealous advocate for regular education ? What can be expected from the most cautious and industrious student, than that he should dedicate several years to the rudiments of his art, and travel for further instructions from one university to another ?

It is likewise a common opinion, that Sydenham was thirty years old before he formed his resolution of studying physic, for which I can discover no other foundation than one expression in his dedication to Dr. Mapletoft, which seems to have given rise to it by a gross misinterpretation ; for he only observes, that, from his conversation with Dr. Cox to the publication of that treatise, thirty years had intervened.

Whatever may have produced this notion, or how long soever it may have prevailed, it is now proved beyond controversy to be false, since it appears that Sydenham, having been for some time absent from the university, returned to it in order to pursue his physical inquiries before he was twenty-four years old, for, in 1648, he was admitted to the degree of bachelor of physic.

* Dissertation on Consumption.

That such reports should be confidently spread, even among the contemporaries of the author to whom they relate, and obtain in a few years such credit as to require a regular confutation ; that it should be imagined that the greatest physician of the age arrived at so high a degree of skill, without any assistance from his predecessors ; and that a man, eminent for integrity, practised medicine by chance, and grew wise only by murder, is not to be considered without astonishment.

But if it be on the other part remembered, how much this opinion favours the laziness of some, and the pride of others ; how readily some men confide in natural sagacity, and how willingly most would spare themselves the labour of accurate reading and tedious inquiry ; it will be easily discovered how much the interest of multitudes was engaged in the production and continuance of this opinion, and how cheaply those, of whom it was known that they practised physic before they studied it, might satisfy themselves and others with the example of the illustrious Sydenham.

It is therefore in an uncommon degree useful to publish a true account of this memorable man, that pride, temerity, and idleness may be deprived of that patronage which they have enjoyed too long ; that life may be secured from the dangerous experiments of the ignorant and presumptuous ; and that those who shall hereafter assume the important province of superintending the health of others, may learn from this great master of the art, that the only means of arriving at eminence and success are labour and study.

About the same time that he became a bachelor of physic, he obtained, by the interest of a relation, a fellowship of All Souls College, having submitted to the subscription required to the authority of the visitors appointed by the parliament, upon what principles, or how consist-

ently with his former conduct, it is now impossible to discover.

When he thought himself qualified for practice, he fixed his residence in Westminster, became doctor of physic at Cambridge, received a licence from the college of physicians, and lived in the first degree of reputation and the greatest affluence of practice for many years, without any other enemies than those which he raised by the superior merit of his conduct, the brighter lustre of his abilities, or his improvements of his science, and his contempt of pernicious methods, supported only by authority, in opposition to sound reason and indubitable experience. These men are indebted to him for concealing their names, when he records their malice, since they have thereby escaped the contempt and detestation of posterity.

The same attention to the benefit of mankind which animated him in the pursuit of a more salutary practice of medicine, may be supposed to have incited him to declare the result of his inquiries, and communicate those methods of which his sagacity had first conjectured, his experience afterwards confirmed the success; he therefore drew up those writings, which have been from his time the chief guides of physic; and, that they might be useful to a great extent, procured them to be put into Latin, partly by Dr. Mapletost, to whom part is dedicated, and partly by Mr. Havers, of Cambridge.

It is a melancholy reflection, that they who have obtained the highest reputation by preserving or restoring the health of others, have often been hurried away before the natural decline of life, or have passed many of their years under the torments of those distempers, which they profess to relieve. In this number was Sydenham, whose health began to fail in the fifty-second year of his age by the frequent attacks of the gout, to which he was subject

for a great part of his life, and which was afterwards accompanied with the stone in the kidneys, and its natural consequence, bloody urine.

These were distempers which even the art of Sydenham could only palliate, without hope of a perfect cure, but which, if he has not been able by his precepts to instruct us to remove, he has at least, by his example, taught us to bear ; for he never betrayed any indecent impatience, or unmanly dejection under his torments, but supported himself by the reflections of philosophy and the consolations of religion, and in every interval of ease applied himself to the assistance of others with his usual assiduity.

After a life thus usefully employed, he died at his house in Pall-mall, on the 29th of December, in the year 1689, and was buried in the aisle near the south door of the church of St James in Westminster.

What was his character as a physician, appears from the treatises that he has left, which it is not necessary to epitomize or transcribe ; and from them it may likewise be collected, that his skill in physic was not his highest excellence ; that his whole character was amiable ; that his chief view was the benefit of mankind, and the chief motive of his actions the will of God, whom he mentions with reverence, well becoming the most enlightened and most penetrating mind. He was benevolent, candid, and communicative, sincere and religious ; qualities which it were happy if they would copy from him, who emulate his knowledge, and imitate his methods.



THE
AUTHOR'S PREFACE.

1. SINCE the human body is so formed by nature, that, by reason of the continual wear of its component particles, and the force of external agents, it cannot always continue in the same state, whence numerous diseases have in all ages arisen ; doubtless the necessity of discovering a cure for them must have put mankind upon studying physic, long before the birth of the Grecian, or even the Ægyptian Æsculapius, who flourished a thousand years before the former.

2. In reality, as it would be difficult to assign the first inventor of houses and clothing, for a defence against the injuries of the weather, so the origin of physic can no more be discovered than the head of the Nile ; notwithstanding that this art, as well as some others, must have always subsisted, though it has been cultivated more or less according to the dispositions of different countries and ages.

3. The performances of the ancients in this science, and chiefly of Hippocrates, are well known ; their works containing the most considerable part of the curative branch ; and the following ages have produced some eminent men, who have spared no pains to extend its limits by a close application to either anatomy, pharmacy, or practice, not to mention those of our own age and nation, whose endeavours in all the sciences that tend to improve this art, deserve the praises of an abler pen.

4. But how considerable soever their attempts have been, I should always have esteemed myself a useless member of society, had I not contributed my mite towards the improvement of physic ; and upon this account, after long deliberation, and many years close and faithful observation, I resolved (1.) to communicate my thoughts re-

lating to the manner of making farther advances in physic, and (2.) to publish a specimen of my endeavours in this way.

5. The improvement of physic, in my opinion, depends (1.) upon collecting a genuine and natural description or history of all diseases as can be procured; and (2.) laying down a fixed and complete method of cure. It is easy enough to describe diseases unskilfully, but to write such a full and accurate history of them as to escape the censure that lord Bacon has passed upon some great promisers in another way, is a much more difficult task. "We are not to learn," says the noble author, "that we have a voluminous natural history, which is agreeable to the variety of its matter, and, by the pains bestowed upon it, rendered curious and entertaining in many places; but if it were stript of its fables, quotations, trifling disputes, philology, and other ornaments, that are fitter for the conversation of learned men at their hours of relaxation, than for institutes of philosophy, the matter of it would be brought into a narrow compass. Such a history falls far short of our design." And thus the cure of diseases is easily delivered according to the common method; but to do it in a masterly scientific manner will appear a much harder task to those who know that there are abundance of distempers to be met with in practical writers, that were and still continue incurable.

6. But with regard to the history of diseases, whoever considers the undertaking deliberately, will easily perceive that the author must attend to several more particulars than are ordinarily minded; a few of which I shall mention at present.

7. (1.) All diseases, then, ought to be reduced to certain and determinate kinds, with the same exactness as we see it done by botanic writers in their treatises of plants. For there are diseases that come under the same genus, bear the same name, and have some symptoms in common, which, notwithstanding, being of a different nature, require a different treatment.—Thus it is generally known that the word *carduus* is applied to several kinds of herbs, and yet a botanist would be guilty of inaccuracy, who should content himself with giving a general description of the plant, and enumerating the marks wherein it

differs from all others, and in the mean time take no notice of the peculiar characteristics of every species, which distinguish them from one another. In like manner it is not enough for a writer to give us only the common signs or appearances of any disease; for though the same variety does not happen in all distempers, yet I hope to make it plainly appear, in the following sheets, that there are several, which, notwithstanding their being treated of by authors under the same name, without any distinction of kind, are extremely different.

8. Furthermore, where we meet with this distribution of distempers into kinds, it is commonly done to serve some hypothesis founded upon the true phenomena; and thence this distinction is rather adapted to the bent of the author, and his manner of philosophizing, than to the nature of the disorder. How much the improvement of physic has been obstructed by this erroneous procedure appears in not a few diseases, the cure of which would not have been undiscovered at this day, if the benevolent writers of experiments and observations had not been deceived by taking one disease for another. And to this cause I esteem it owing, that the *materia medica* is so immensely enlarged, and yet with little advantage to the diseased.

9. (2.) In writing, therefore, a history of diseases, every philosophical hypothesis which hath prepossessed the writer in its favour, ought to be totally laid aside, and then the manifest and natural phenomena of diseases, however minute, must be noted with the utmost accuracy, imitating in this the great exactness of painters, who in their pictures copy the smallest spots or moles in the originals; for it is difficult to give a detail of the numerous errors that spring from hypothesis, whilst writers, misled by false appearances, assign such phenomena for diseases, as never existed but in their own brains; whereas they ought to appear clearly, if the truth of their favourite hypothesis, which they esteem incontestable, were well established. Again, if any symptom, properly suiting their hypothesis, does in reality belong to the disease they are about to describe, they lay too much stress upon it, as if nothing more was wanting to confirm it; whereas, on the contrary, if it does not agree with their hypothesis, their

manner is, either to take no notice at all of it, or but barely to mention it, unless they can, by means of some philosophical subtilty, adjust it thereto, and bring it in some measure to answer their end.

10. (3.) Again, in describing any disease, it is necessary to enumerate both the peculiar and constant phenomena or symptoms, and the accidental ones separately; of which latter kind are those which differ occasionally by reason of the age and constitution of the patient, and the different method of cure. For the appearance or aspect of a disorder often varies according to the different method of cure, some symptoms being rather occasioned by the physician than the disorder itself; so that persons labouring under the same illness being differently treated, have different symptoms. And hence, unless great caution be used in this point, our notions of the symptoms of diseases must necessarily be very loose and uncertain; not to mention that uncommon cases do not more properly belong to the history of diseases than the biting of the palmer worm, in describing *sage*, is to be reckoned amongst the characteristic marks of that plant.

11. (4.) Lastly, the seasons of the year that principally promote any particular kind of diseases, are to be carefully remarked. I own that some happen indiscriminately at any time, whilst many others, by a secret tendency of nature, follow the seasons of the year with as much certainty, as some birds and plants. And indeed I have often wondered, that this tendency of some distempers, which is very obvious, has been hitherto observed but by few; whereas abundance of persons have, with great exactness, noted under what planet plants spring and brutes engender. But from what cause soever this inadvertency proceeds, certain it is, that a knowledge of the seasons in which diseases ordinarily arise, is of great use to a physician towards discovering the species of the disease, as well as the method of curing it; and that the consequence of slighting this piece of knowledge is ill success in both.

12. These are some of the most remarkable, though not the only particulars to be observed in writing a history of diseases; the usefulness of which to practice is not to be conceived, and in comparison whereof the subtle inquiries and trifling notions, with which the writings

of the moderns abound, are of no sort of value. For is there a shorter, or indeed any other way of coming at the morbid causes we are to encounter, or of discovering the curative indications, than by a certain and distinct perception of the peculiar symptoms? Even the smallest circumstance is of use to both these purposes: for, allowing that some variety happens from the constitution of particular persons and the method of cure, yet nature notwithstanding acts in that orderly and equable manner in producing distempers, that the same disease appears attended with the like symptoms in different subjects; so that those which were observed in Socrates, in his illness, may generally be applied to any other person afflicted with the same disease, in the same manner as the general marks of plants justly run through the same plants of every kind. Thus, for instance, whoever describes a violet exactly as to its colour, taste, smell, form, and other properties, will find the description agree, in most particulars, with all the violets in the universe.

13. And, in truth, it is my opinion, that the principal reason of our being yet destitute of an accurate history of diseases, proceeds from a general supposition, that diseases are no more than the confused and irregular operations of disordered and debilitated nature, and consequently that it is a fruitless labour to endeavour to give a just detail of them.

14. But to resume our subject: a physician may likewise collect the indications of cure from the smallest circumstances of the distemper, as certainly as he does the distinguishing signs from them; and for this reason I have often thought, that, if I had a just history of any disease, I should never be at a loss to apply a suitable remedy to it: its different phenomena or symptoms manifestly showing the way to be followed, and being carefully compared together, would lead us, as it were, by the hand, to those obvious indications that are gathered from a thorough insight into nature, and not from the errors of imagination.

15. By these steps and helps the father of physic, the never enough extolled Hippocrates, came to excel in his profession, who, after laying down this solid and unshaken foundation to build the art upon, has clearly de-

livered the symptoms of every disease, without calling in any hypothesis to his aid, as appears in his books concerning diseases, &c. He has likewise left us some rules, drawn from the observance of nature's method of promoting and removing distempers: such are his *prognostics*, *aphorisms*, and other writings of this kind. Of these particulars, the theory of this eminently judicious physician chiefly consisted, which not being deduced from the trifling sallies of a wanton imagination, like the dreams of distempered persons, exhibited a genuine history of the operations of nature in the diseases of mankind. Now, his theory being no more than an exact description of nature, it was highly reasonable that he should aim in his practice only at relieving diseased nature by all the means he could employ; and hence, likewise, he required no more of art, than to assist nature when she languished, and to check her when her efforts were too violent; and to accomplish both these ends by the steps and method whereby she endeavours to expel the disorder: for this sagacious observer found, that nature alone terminates distempers, and works a cure with the assistance of a few simple medicines, and sometimes even without any medicines at all.

16. (2.) The other method of improving physic farther consists, chiefly, in my opinion, in delivering a fixed and every way complete method of cure; such a one, I mean, as hath been sufficiently established and verified by a competent number of experiments, and found effectual to cure any particular disease. For I conceive it not enough to publish the particular success of any method or medicine, if neither are generally found to answer the end in all cases, at least in the same given circumstances. But I maintain that we ought to be as certainly assured, that a particular disease may be conquered by answering a certain indication, as we are of answering a particular indication by some certain medicine; that will generally, though not always, produce the desired effect: thus, for instance, we purge with *sena*, and cause sleep with *poppies*. However, I do not deny but that the physician ought to attend carefully to the particular effects both of the method and medicine he uses in curing diseases, and to set them down for the ease of his memory, as well as

the improvement of his knowledge; so that at length, after many years' experience, he may fix upon such a method of curing any particular disease, as he need not in the least depart from.

17. But the publishing particular observations is not so useful, in my opinion; for if the observer only intends to inform us that a particular disease hath yielded once, or oftener, to such a medicine; of what advantage is it to me that a single medicine, which I knew not before, is added to the immense stock of eminent medicines, that we have long been pestered with? But if, laying aside all other medicines, I should use only this, ought not its virtues to be approved by numerous experiments? And are there not also numberless other circumstances, relating both to the patient and the method of cure, to be considered before any advantage can be reaped from a single observation? If the medicine never fails, why does the observer deal only in particulars, unless he either distrusts his experience, or desires rather to impose upon the public in part, than in the whole? But how easy a task it is to write large volumes of this kind can be no secret to one that is but little acquainted with practice; as, on the contrary, how difficult it is to lay down a perfect, and every way complete method of cure in any disease. If only one person in every age had treated but a single disease in this manner, physic would have been brought to as much perfection many years ago, as the condition of mankind will admit. But our misfortune proceeds from our having long since forsook our skilful guide Hippocrates, and the ancient method of cure founded upon the knowledge of conjunct causes, that plainly appear: insomuch, that the art which is at this day practised, being invented by superficial reasoners, is rather the art of talking than of healing. But that I may not seem to advance this assertion without sufficient grounds, I beg leave to make a short digression from the subject, in order to prove that the discovering and assigning of remote causes, which engross the thoughts, and feed the vanity of curious inquirers, is an impossible attempt, and that only immediate and conjunct causes fall within the compass of our knowledge, and that from these alone the curative indications are to be taken.

18. Accordingly, it must be observed, that if the humours are retained in the body beyond the due time, either (1.) because nature cannot digest and afterwards expel them, or (2.) from their having contracted a morbid taint from a particular constitution of the air, or (3.) lastly, from their being infected with some poison: by these, I say, and the like causes, these humours are worked up into a substantial form, or species, that discovers itself by particular symptoms, agreeable to its peculiar essence; and these symptoms, notwithstanding they may, for want of attention, seem to arise either from the nature of the part in which the humour is lodged, or from the humour itself before it assumed this species, are in reality disorders that proceed from the essence of the species, newly raised to this pitch: so that every specific disease arises from some specific exaltation, or peculiar quality of some humour contained in a living body. Under this kind may be comprehended most diseases, which have a certain form or appearance; nature in fact observing the same uniform method in producing and bringing diseases to a height or *crisis*, as she does in the production or growth of plants or animals. For as every plant or animal is possessed of peculiar properties, so it is likewise in every exaltation of any humour after its being come to a species, or disease. We have a clear proof of this every day, in those kinds of excrescences that grow on trees and shrubs (occasioned by the ill quality of the nutritious juice, or other causes) in the form of moss, mistletoe, mushrooms, and the like; all which are manifestly different essences, or species, from the tree or shrub that bears them.

19. In reality, whoever diligently and accurately considers the phenomena, or symptoms, accompanying a *quartan fever*, viz. that it mostly comes towards *autumn*, and keeps a certain course, or appearance, the fits, or periodical revolutions of it, returning as certainly every fourth day, as a clock renews its rounds, unless this regular course be interrupted by some external agent; that it begins with a shivering, and a great sense of cold, which are succeeded by as sensible a degree of heat, which terminates at length in a profuse sweat; and lastly, that whoever is seized with this disorder is seldom cured be-

fore the *vernal equinox*: I say, whoever duly considers these particulars, will find as strong reasons to believe that this distemper is a species, as a plant is one, which in like manner springs out of the earth, flowers, and dies, and is in other respects affected agreeably to its nature or essence. For it is not easy to comprehend why this disease should arise from a combination of principles and manifest qualities, whilst a plant is on all hands allowed to be a substance and distinct species in nature. However, in the mean time, we do not deny but that as most kinds of animals or plants subsist of themselves, so, on the contrary, the species of distempers depend on those humours that produce them.

20. But though, from what has been delivered, the causes of most diseases should seem absolutely undiscoverable; yet the question, *how they may be cured*, may be answered, inasmuch as we speak here only of their remote causes. Now it is easy to observe, that the curious inquirers into these causes lose their labour, whilst they endeavour, in spite of nature, to investigate and bring them to view, and yet overlook the immediate and conjunct causes that are at hand, which must necessarily and may be discovered without such trifling helps, inasmuch as they disclose themselves to the understanding, fall under the notice of the senses, or may be learnt from the anatomical observations of our predecessors. And as it is manifestly impossible a physician should discover those causes that have not the least correspondence with the senses, so neither is it necessary: it is sufficient for him to learn the immediate causes, and those effects and symptoms of a distemper that may enable him to distinguish accurately between this and another similar disease. Thus, for example, in a pleurisy, it is a fruitless labour to search into the ill quality and broken texture of the blood, whence this disease originally proceeds, which are not to be comprehended; but whoever perfectly understands the immediate cause thereof, and can distinguish it from all other distempers, will cure it as certainly, though he neglects the useless and trifling search after remote causes. But this by way of digression.

21. But if any one were to ask whether, besides the two foregoing *desiderata* in physic, viz. (1.) a true his-

tory of diseases, and (2.) a certain and established method of cure, a third should not be added, namely, *the discovery of specific remedies*? I answer in the affirmative, and proceed to do my part towards it. For though that seems to be the best method of curing acute diseases, which, after nature has pitched upon a certain kind of evacuation, assists her in promoting it, and so necessarily contributes to cure the distemper; it is nevertheless to be wished that the cure might be shortened by means of *specifics* (if any such medicines can be discovered), and, which is of more importance, that the patient might be preserved from the evils which are the consequence of those errors that nature often unwillingly makes in expelling the cause, even though she is assisted in the most effectual and skilful manner by the physician.

22. As to the cure of *chronic diseases*, though I believe that more advantage may be expected from the use of a *method* only, than can be conceived at first, yet it is plain that this is wanted in the cure of some of the most considerable distempers of this kind, which happens chiefly for this reason, that nature is not possessed of so effectual a method of expelling the morbid matter in *chronic* as in *acute* diseases, which might enable us to conquer the distemper, by assisting her, and aiming at the true end. In eradicating a *chronic* disease, therefore, whoever is possessed of a medicine, powerful enough to destroy the species of it, justly deserves the appellation of a physician; to which he has no right, who only introduces a new one from the first and second qualities, instead of the former, which may indeed be done without abolishing the species. Thus, for instance, a person that has the *gout* may be heated or cooled without curing the distemper; specific diseases being not more immediately cured by that method, which is only introductive of different qualities, than fire is extinguished by a sword. For, pray, what does heat, cold, moisture, dryness, or any of the second qualities contribute towards the cure of a distemper, the essence of which consists in none of these?

23. But if it be objected, that we have long been possessed of a sufficient number of specifics, I answer, that the contrary will soon appear, provided a strict search be made into this particular: the Peruvian bark being the

only one we have. For there is a wide difference between medicines that *specifically* answer some certain curative indication, which being effectually performed, perfects the cure, and those that specifically and immediately cure a disease, without regarding any particular intention, or curative indication. To exemplify this : *mercury* and *sarsaparilla* are usually reckoned specifics in the venereal disease, though they ought not to be deemed proper and immediate specifics, unless it could be demonstrated by undeniable instances, that *mercury* had cured the patient without causing a *salivation*, and *sarsaparilla* without raising a *sweat*. For other diseases are cured in the same way by other evacuations, and nevertheless the medicines exhibited for this purpose do more immediately contribute to the cure of the diseases that yield to those evacuations, which these medicines are principally designed to promote, than a lancet does towards the cure of a *pleurisy* ; which nobody, I imagine, will call a specific in this disorder.

24. Specific medicines, therefore, considered in our limited sense of them here delivered, fall not to every man's share, and seldom to theirs who take no pains to discover them ; and yet I doubt not but out of the overflowing fulness wherewith nature, by the appointment of our most liberal Creator, abounds for the preservation of the whole race of mankind, provision is likewise made for the cure of the principal diseases which afflict them, and that by such medicines as are within reach, and the produce of every climate. It is indeed pity that we are no better acquainted with the virtues of plants, which I esteem the best part of the *materia medica*, and most likely to afford such medicines as we have just treated of. For the parts of animals should seem to resemble the human body too nearly, and minerals to differ too much from it ; and hence it is, I ingenuously own, that minerals more effectually answer indications, than medicines prepared from animals or plants do, but yet not specifically, in the sense and manner above mentioned. For my own part, I can only say that I have spent some years in researches of this kind, yet without succeeding well enough to encourage me to communicate the result of my inquiries.

25. But though I like plants best, yet I would not de-

ery those excellent medicines, the productions of a different kingdom, that have been discovered by the application of our predecessors or cotemporaries, and found to answer the curative indications effectually. Amongst these Dr. Goddard's drops claim the first notice, which are prepared by Dr. Goodall; I prefer them to all other volatile spirits, on account of their efficacy and virtue in answering the purposes for which they are given.

26. To conclude: having engaged myself, in this preface, to publish a specimen of my labours for the improvement of physic, I will now endeavour to fulfil my promise by presenting the public with the history and cure of acute diseases. And though, in executing this design, I am sensible I shall expose all the fruit of my labours, for the best part of my life, to the indolent and ignorant, yet I am too well acquainted with the disposition of this degenerate age to expect any thing but censure and contumely in return; and know that I should have gained more reputation by advancing some trifling and useless speculation: but be that as it will, I hope to be rewarded elsewhere.

27. If it be objected here, that there are those no less versed in practice than I am, who are of a different opinion; I answer, that it is none of my business to inquire into what other persons think, but to establish the truth of my own observations: in doing which, I only beg the reader's patience, not his favour, for the subject itself will soon show whether I have acted with sincerity, or, on the contrary, like the most profligate wretches, endeavoured to destroy my fellow-creatures after my decease. I only beg pardon for having delivered the history and cure of diseases with less accuracy than I intended, being sensible that I have not completed my design, but rather excited men of greater abilities to undertake the finishing of a performance hereafter, that I have here executed imperfectly.

28. And now I have but one thing more to inform the reader of, which is, that I do not intend to swell the following sheets with a multitude of particular observations in confirmation of the method therein delivered; for it would be both needless and tiresome to repeat those things particularly which I have comprised in a summary way.

I esteem it sufficient to subjoin occasionally a particular case, containing the substance of the preceding *méthod*, at the conclusion of every general observation, at least with respect to late years. And I declare that I have published no general method, that has not been established and verified by frequent experience.

29. Whoever expects to meet with abundance of prescriptions will be disappointed ; it being left to the judgment of the physician to prescribe as the circumstances may require. I have done my part by mentioning the indications to be answered, and pointing out the time and manner of doing it : for the practice of physic chiefly consists in being able to discover the true curative indications, and not medicines to answer them ; and those that have overlooked this point have taught empirics to imitate physicians.

30. But if it be objected, that in some cases I have not only renounced the pompous part of prescription, but likewise recommended such medicines, as, by reason of their simplicity, have little or no affinity with the *materia medica* ; I answer, that I conceive that this procedure will offend none but persons of little understanding and less benevolence ; for the wise know that every thing is good which is useful. And that Hippocrates, in advising the use of bellows in the *iliac passion*, and the total disuse of all medicines in a *cancer*, with other articles of the like nature, which occur in almost every page of his writings, deserves to be esteemed as able a physician, as if he had filled them with the most pompous prescriptions.

31. I intended also to have given a history of chronic diseases, at least of those I had most frequently treated ; but as this will be a work of labour, and being desirous likewise to see first how these sheets are received, I defer the prosecution of it to some other time.



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SYDENHAM ON DISEASES.

SECTION I.

CHAPTER I.

OF ACUTE DISEASES IN GENERAL.

1. **A** DISEASE, in my opinion, how prejudicial soever its causes may be to the body, is no more than a vigorous effort of nature to throw off the morbid matter, and thus recover the patient. For as God has been pleased so to create mankind, that they should be fitted to receive various impressions from without, they could not, upon this account, but be liable to different disorders; which arise either from such particles of the air, as having a disagreement with the juices, insinuate themselves into the body, and mixing with the blood, taint the whole frame; or from different kinds of fermentations and putrefactions of humours detained too long in the body, for want of its being able to digest, and discharge them, on account of their too large bulk, or unsuitable nature.

2. These circumstances being so closely interwoven with our constitutions, that no man can be entirely free from them, Nature provides such a method and train of symptoms, as may expel the peccant matter that would otherwise destroy the human fabric. And though this end would be more frequently obtained by these disagreeable means, were not her method obstructed through unskillfulness; yet, when left to herself, either by endeavouring too much, or not enough, the patient pays the debt of mortality: for it is an immutable law, that no generated being can always continue.

Constat æternâ positumque lege est,
Constat ut genitum nihil. BOETHIUS.

3. A little to exemplify this doctrine: What is the plague but a complication of symptoms to throw out the morbid particles (taken in with the air we breathe) through the proper emunctories, by way of external abscess, or other eruptions? What is the gout, but the contrivance of nature to purify the blood of aged persons, and, as Hippocrates phrases it, to purge the recesses of the body? And the same may be said of many other diseases, when they are perfectly formed.

4. But nature performs this office, quicker or slower, according to the different methods she takes to expel the morbid cause. For when a fever is required to loosen the morbid particles from the blood, to promote their separation, and at length discharge them by sweat, a looseness, eruptions, or other similar evacuation; as this effect is produced in the mass of blood, with a violent motion of the parts, it follows, that the change to recovery or death, must be sudden, (according as Nature can conquer the morbid matter by a crisis, or is forced to submit) and that these efforts must be joined with violent and dangerous symptoms. And of this kind are all acute diseases, which come to their state with rapidity, violence, and danger. Now, in this way of speaking, all those diseases may be esteemed acute, which, with respect to their fits taken together, go on slowly, but with respect to a single fit are soon terminated critically, of which kind are all intermittent fevers.

5. But where the matter of the disease is such that it cannot raise the assistance of a fever, for its thorough discharge, or is fixed upon a particular part too weak to expel it, either on account of the peculiar structure of that part, (as in the palsy, where the morbid matter is fixed in the nerves, and an empyema, where it is discharged into the cavity of the breast) or through a want of natural heat and spirits, (as when phlegm falls upon the lungs weakened by age, or an habitual cough) or lastly, from a continual afflux of a new matter, whereby the blood becomes vitiated, and, by its vigorous endeavours to throw it off, overpowers and oppresses the part affected; in all these cases, the matter is slowly brought to concoction, or not at all; and therefore diseases proceeding from such indigestible matter, are what we properly term chronic. And from these two contrary principles, acute and chronic diseases respectively arise.

6. As to acute diseases, of which I now design to treat, some of them proceed from a latent and inexplicable alteration of the air, infecting the bodies of men; and not from any peculiar state or disposition of the blood and juices, any farther than an occult influence of the air may communicate this to the body; these continue only during this one secret state or constitution of the air, and raging at no other time, are called epidemic distempers.

7. There are other acute diseases, arising from some peculiar indisposition of particular persons; but as these are not produced by a general cause, few are seized with them at once. These also appear in all years, and at any time of the year indifferently, some exceptions admitted, which I shall hereafter mention, in treating of this kind particularly. These I call intercurrent or sporadic acute diseases, because they happen at all times when epidemics rage. I will begin with epidemics, and chiefly propose to give a general history thereof.

CHAP. II.

OF EPIDEMIC DISEASES.

1. IF one were to examine all the branches of physic, nothing, perhaps, would appear so surprising as the different, and perfectly dissimilar face of epidemic diseases; which do not so much relate to, and depend upon the various seasons of the same year, as upon the different constitutions of different years.

2. And this manifest diversity of these diseases still farther appears, not only from their proper and peculiar symptoms, but also from the different method of cure they respectively require. Hence it is clear, that these distempers, though to less accurate observers they may seem to agree in their external face, and certain symptoms in common, are, in reality, of very different and dissimilar natures. Whether a careful examination, such as, perhaps, could not be well made in the life of one man, might shew, that certain tribes of epidemic disorders, constantly follow others, in one determined series, or circle, as it were; or whether they all return indiscriminately, and without any order, according to the secret disposition of the air, and the inexplicable succession of seasons, I am not certain.*

3. This, however, I am convinced of from numerous careful observations, that the above mentioned kinds of diseases, especially continued fevers, differ so extremely, that the same method which cures in the middle of the year, may possibly prove destructive at the conclusion of it;† and when I had once happily fallen upon a genuine method of treating any species of fevers, suitably to its nature, I always proved successful (proper regard being had to the constitution, age, and other particular circumstances of the patient) till that species became extinct, and a new one arose; when I was again doubtful how to proceed, and, notwithstanding the utmost caution, could scarce ever preserve one

* This question has long been the object of attention and inquiry by physicians. Modern observations render it probable, epidemics do not succeed each other in such a regular order as to afford a prediction from the presence of any one of them, what will be the nature of its successor, except as to its force or degree of violence.

† This remark extends to diseases of a more limited duration than a whole year. The remedies which prove useful in the beginning of an epidemic, are sometimes improper for it in its advanced, or declining state. This is founded upon the changes which take place in its grade, or in the determinations of nature, to cure it, and is the effect of changes in the sensible, or what Dr. Sydenham calls the *manifest* qualities of the air, and a cause to be mentioned hereafter.

or two of my first patients from danger, till I had thoroughly investigated the nature of the distemper, and then I proceeded in a direct and safer way to the cure.

4. And though I have carefully observed the different constitutions of different years, as to the manifest qualities of the air, that I might from thence discover the causes of the so great dissimilitude of epidemic diseases, yet I must own, I have hitherto made no progress; having found that years perfectly agreeing as to the manifest temperature of the air, have nevertheless produced very different tribes of diseases; and vice versa.*

5. The matter seems to stand thus: there are various general constitutions of years, that owe their origin neither to heat, cold, dryness, nor moisture; but rather depend upon a certain secret and inexplicable alteration in the bowels of the earth, whence the air becomes impregnated with such kinds of effluvia as subject the human body to particular distempers, so long as that kind of constitution prevails, which, after a certain course of years, declines, and gives way to another. Each of these general constitutions is attended with its own proper and peculiar kind of fever, which never appears in any other; and therefore I call this kind of fever stationary.

6. There are also certain particular constitutions of the same year, in which, though such kinds of fevers as follow the general constitution of the year, with regard to the manifest qualities of the atmosphere, may prove more or less epidemic, and rise either earlier or later; yet the fevers that appear in all years (which we therefore call intercurrents) do proceed from some one or other manifest quality of the air; for instance, pleurisies, quinsies, and the like, which generally happen when an intense and long continued cold is immediately succeeded by a sudden heat. It may therefore be, that the sensible qualities of the air have some share in producing those intercurrent fevers, which appear in every constitution of the atmosphere, but they do not cause the epidemics peculiar to the general constitution. And yet, at the same time, it must be acknowledged that the above-mentioned qualities of the air may more or less dispose the body to the particular epidemic disease; and the same may be affirmed of any error in the non-naturals.

7. Now it must be observed, that some epidemic diseases, in some years, are uniformly and constantly the same, appearing in almost every patient with the same train of symptoms, and going off in the same manner. From this kind, therefore, as the most

* This remark is correct, and is calculated to show that epidemics depend upon a quality in the air totally different from its manifest qualities.

perfect, the genuine history of epidemic diseases is to be taken.*

8. On the contrary, in other years there are other distempers, which, though called epidemic, prove very irregular and dissimilar, as having no one fixed form, or constant appearance, but are extremely irregular, both as to the variety and dissimilarity of the symptoms, and the manner in which they proceed and go off. This great variety in epidemics happens from hence, that every constitution produces diseases considerably differing from those of the same kind that prevailed in other constitutions at another time; which not only holds true of fevers, but of most other epidemic diseases.†

9. Nor is this all; for there is another subtilty of nature still behind, viz. that the same disease, in the very same constitution of the year, frequently appears in a various and dissimilar manner, as to the time of its beginning, state, and declension; which is an observation of such consequence, as to regulate the indications of cure.

10. Again, it must be observed, that all epidemics are of two sorts, viz. vernal and autumnal; and though they may possibly arise at a distant time of the year, yet they must be referred either to spring or autumn, accordingly as they approach thereto respectively: for sometimes the temperature of the air conspires so much with an epidemic disease, as to produce it before its time; and, on the other hand, it sometimes opposes it so much, as to make it appear later, even in persons disposed to receive it. When, therefore, I shall mention spring or autumn, I do not precisely

* This remark accords with the observations of the physicians in the United States. Some epidemics appear with uniform symptoms, in spite of all the varieties that occur in predisposition and constitution. This was very much the case in the bilious yellow fever which appeared in Philadelphia in the year 1793. In these cases a uniformity of practice is generally successful. The late Dr. Way informed me, that in the season of epidemics in New Castle county in the Delaware State, he first discovered the character of the prevailing disease in Wilmington, the place of his residence, and the remedies which were effectual in it. From this knowledge, he prescribed for patients at a distance from him whom he was unable to visit, with nearly the same success that he did for those whom he saw every day.

† This remark is equally correct with the foregoing. The variety in the forms, or symptoms of the same epidemic, must be ascribed to a difference in the force of the remote cause, or a difference in the predispositions of the patients. This variety in the form of the same epidemic, requires constant acts of vigilance and judgment in a physician, to treat it with success.

mean the vernal or autumnal equinox, but take in a wider compass.

11. Some vernal epidemics appear early, as in January, and thence gradually increasing, come to their state about the vernal equinox, after which they gradually decrease, and at length disappear about the summer solstice, except, perhaps, in a very few instances. Of this kind I reckon the measles, and vernal tertians, which, though they rise somewhat later, as in February, do likewise disappear near the summer solstice; whilst others, rising in the spring, and daily increasing, come not to their state till about the autumnal equinox, after which they gradually decrease, and vanish at the approach of winter. Of this kind are the plague and the small-pox, in those years when either of them is the principal disease of the year.

12. The cholera morbus, which is of the number of autumnal epidemics, rises in August, and finishes its course in a month;* though there are other diseases which arise at the same time, and run on to the winter; as autumnal dysenteries, tertians, and quartans; all which, however, notwithstanding the longer or shorter space they sometimes affect a few particulars, generally cease in two months.

13. As to fevers in particular, it must be observed, that the greatest part of them which are of the continued kind, have hitherto no names assigned them, as they depend upon the influence of a general constitution or state of the air; but the names whereby they are distinguished, are derived from some remarkable alteration made in the blood, or some other apparent symptom; whence they are called putrid, malignant, petechial, &c. But as almost every constitution, besides the fevers it produces, eminently favours some remarkable epidemic disease, as the plague, small-pox, dysentery, &c. I should think that these fevers ought to derive their names from the constitution, as this tends more peculiarly to produce some one of these remarkable distempers, at the time they appear, rather than from any alteration of the blood, or particular symptom; both which may equally accompany fevers of different kinds.

14. Intermittents, indeed, derive their names from the interval of two fits, and by this mark are sufficiently distinguished, provided regard be had to the two divisions of the year wherein they happen, viz. spring and autumn. And yet sometimes fevers are of the true nature of intermittents, without any visible sign to discover them by. So when autumnal intermittents enter and appear early, as in July, they do not presently assume their genuine

* This coincides with the same disease in the middle states of America. It is the precursor of autumnal diseases.

form, as vernal intermittents generally do, but so far resemble continued fevers in all respects, as not to be distinguished, without a very strict examination; but at length, when the force of the prevailing constitution is a little weakened, they appear more genuine, and at the close of autumn, quitting their disguise, plainly manifest themselves to be intermittents either of the tertian or quartan kind, as they really were from the first; but if this be not carefully attended to, physicians will be deceived, to the disadvantage of their patients, by taking such kinds of intermittents for true continued fevers.*

15. Again it must be carefully remarked, that as many of these diseases appear in the same year, some one or other of them rules over the rest, which rage less at the same time; so that this one increasing, the others decrease, and this diminishing, the others soon re-appear. And thus they prevail by turns, according as each is favoured by the disposition of the year, and the sensible qualities of the air; and that distemper which rages most violently about the autumnal equinox, gives its name to the constitution of the whole year: for whatever distemper then prevails over the rest, will easily be found to preside over them during that year; and to the disposition thereof all the then reigning epidemics accommodate themselves, so far as their nature permits.

16. Thus, for example; when the small-pox prevails much, the fever of that year, which is less general, plainly partakes of the same inflammatory nature therewith; so that both distempers begin after the same manner, and are attended with a great similarity of the most peculiar symptoms, as manifestly appears from the great tendency to spontaneous sweats, and the discharge of saliva in both; and they only differ in the eruption of the pustules, and whatever depends thereon.† Again: when dysenteries are the principal raging disease of the year, the fever of the same year bears great resemblance to the nature; excepting only that, in a dysentary, the morbid matter is discharged by stool, with a few symptoms thereon depending; for they both attack in the same manner; and in both cases Aphæ, and the like symptoms,

* Dr Wallis has justly suggested that this remark has "more nicety than use." For if all continued fevers are protracted intermittents, and if, in the treatment of them, the force or seats of the disease should regulate practice, no injury will be done to a patient by his physician being ignorant of the form which the continued fever may assume in its progress and termination.

† This disposition of powerful diseases to impose some of their symptoms upon weaker ones, is a general law of epidemics. The experience of physicians in all countries confirms the truth of this remark of our author and of the two succeeding Sections.

are equally apt to appear, and indeed the dysentery we speak of, is the very fever itself, with this particularity, that it is turned inwards upon the intestines, and discharges itself that way.

17. But it must be remarked, that this principal epidemic which rages about the autumnal equinox, and lays all waste before it, is checked upon the coming in of winter; whilst, on the contrary the lower class of epidemics, subservient, as it were, to that principal one, now chiefly rage, till the said reigning distemper of the year again prevails, breaks their force, and abolishes their very name.

18. Lastly, it must be observed, that whenever any constitution produces various species of epidemics, all these species differ in kind from those which have the same name, but are produced in another constitution. But how many peculiar species soever arise in one and the same constitution, they all agree in being produced by one common general cause, viz. some peculiar state of the air; and consequently how much soever they may differ from one another in appearance, and specific nature, yet the constitution common to them all works upon the subject-matter of each, and moulds it to such a state and condition, that the principal symptoms (provided they have no regard to the particular manner of evacuation) are alike in all; all of them agreeing in this circumstance, that they respectively grow mild or violent at the same time. It is farther to be noted, that in whatever years these several species prevail at one and the same time, the symptoms wherewith they come on are alike in all.

19. Hence we may see how very various and subtile a method nature uses in producing diseases, which no one, I conceive, has hitherto traced in proportion to the dignity of the subject; and it appears from this short account, that as the specific differences of epidemic distempers, especially fevers, depend upon the secret constitution of the air, that those persons labour unprofitably, who deduce the causes of different fevers from the morbid matter gradually collected in the body; for it is evident that if any man in perfect health should remove to any part of our own country where an epidemic disease rages, he might in a few days be seized with it, though it is scarce credible that any manifest alteration should be made by the air in the juices of the same person, in so short a time.*

* The existence of a morbid constitution of the air, and depending upon matter of some kind, has been admitted ever since the days of Hippocrates. Our inability to discover its presence, is no more a proof of its not existing, than our ignorance of the precise nature of fire furnishes an argument against the existence of the light or heat which are connected with it. Who has ever discovered in the air the matters which produce the natural small pox and measles? and yet their effects upon the human body, prove their existence there.

20. Nor is it less difficult to lay down general rules for the cure of these fevers, or to fix certain limits for practice. Under so much darkness and ignorance, therefore, my chief care, as soon as any new fever arises, is to wait a little and proceed very slowly, especially in the use of powerful remedies; in the mean time carefully observing its nature and procedure, and by what means the patient was either relieved or injured; so as soon to embrace the one and reject the other.

21. In short, to reduce all the species of epidemics into classes, according to the variety of their appearances, to explain their peculiar signs, and point out a proper method of cure for each, is a very difficult task, and requires much time; and as they arise in no stated order of years, (at least this is not yet discovered) to procure a just collection of observations about them, would perhaps require more than the life of any one physician; yet this task, how difficult soever, must be performed, before it can be justly said we have done any thing considerable towards discovering the intricacy of these disorders.*

22. But how shall we give an account of the distinct species of epidemics, which not only, so far as appears, arise fortuitously, but also continue of the same kind for a single year, or some certain series of years; but in another year differ from each other specifically? The best method I can pitch upon is that which describes them through a competent number of years, in the same order in which they happened; and to do this at present, according to my ability, I will here deliver the history and cures of those epidemics which raged from the year 1661 to 1676, viz. the space of 15 years, and this according to the most accurate observations I have been able to make; for it seems to me impossible to do any thing to this purpose by endeavouring to assign their causes, as derived from the manifest qualities of the air; or from any particular indisposition in the blood and juices, unless so far as this may depend upon a secret influence of the air. And it would be still more impossible to set down the species of various epidemics, as arising from some specific alteration of the air, however easy this might seem to those who can affix the names of fevers to ill-formed notions, from the speculation of such alterations as may happen in the blood or juices by any particular degeneration of principles. By this means, indeed, whilst we depart from nature, which is always the best guide, and indulge ourselves the liberty

* It is by no means necessary to know how to class epidemics in order to cure them, any more than it is individual, or solitary, diseases. This opinion of our author is the result of his attachment to nosology. The combination of epidemics or other diseases, is no obstacle to their cure, provided we govern our practice by the existing and varying states of the system.

of conjecture, we may make as many species of diseases as we please; though at the same time we take such a liberty as no one would easily grant to a botanist, who, in writing the history of plants, is obliged to abide by the testimony of the senses, and not indulge his talent at conjecture, however excellent he may be therein.

23. I presume not here to deliver any thing perfect, not even in enumerating the whole class of epidemics; much less will I answer for it that the diseases I mention, as following one another in the order I set them down, shall keep the same order hereafter. The thing I endeavour, is to shew, by the assistance of a few years observations, how this matter stood lately with respect to my own country, and the city wherein I live, in order to assist in beginning a work that, in my judgment, will greatly tend to the advantage of mankind, when, at length, it shall be finished by posterity, and the whole series of epidemics be exhibited to view, as they shall succeed each other for the future.*

CHAP. III.

THE EPIDEMIC CONSTITUTION OF THE YEARS 1661, 1662, 1663, 1664, AT LONDON.

1. The autumnal intermittent fevers which had reigned for several years backwards, appeared with new force in the year 1661, especially a bad kind of tertian, about the beginning of July, which continually increased, so as to prove extremely violent in August, seizing almost whole families in many places with great devastation; after which it gradually decreased upon the coming on of the winter, so as to appear seldom in the month of October. The symptoms that attended these tertians differed from those of the intermittent tertians of other years, chiefly in the following particulars: 1. the fit was more severe; 2. the tongue was more black and dry; 3. the intermission between the fits not so manifest; 4. the loss of strength and appetite greater; 5. a greater tendency to a double fit; 6. all the concomitants, in short, more

* It is no proof of the imperfection of our knowledge of the practical part of medicine, that we are unable to decide the question, whether epidemics precede each other in a regular order. It is important to know their promonitory signs in the air, and in the animal and vegetable kingdoms, and these have been discovered and are to be met with in many of our practical books of medicine.

violent; 7. and the disease itself more mortal than intermitting fevers usually are; 8. when it happened in persons aged, or of a bad habit of body, where, besides, either bleeding or any other evacuations had diminished the strength, it would continue for two or three months.*

2. A few quartans accompanied these tertians, but both of them went off upon the first coming on of winter, (for they seized upon none that were unaffected by them before) and were followed by a continued fever, differing from the nature of autumnal intermittents only in this; that they happened at stated times, but this without intermission; for they both seized almost in the same manner, and those that were violently attacked with either, had a vomiting, dryness of the external parts, thirst, and blackness of the tongue: sweats also, towards the end of the distemper, readily discharged the morbid matter in both cases.

3. And it may even from hence appear that this fever belonged to the class of autumnal intermittents, because it very rarely shewed itself in the spring. This continued fever, therefore, appeared to me a kind of compendium of the intermittent; as, on the other hand, each single fit of the intermittent was a kind of compendium of the continued fever. The difference between them consisted chiefly in this, that the continued fever finished its period of effervescence all at once, in the same constant course; but the intermittent, by fits, at different times.

4. How long this continued fever had prevailed, I cannot say, having been hitherto sufficiently employed in observing the general symptoms of fevers, and not yet finding that fevers might be distinguished, with regard to the various constitutions of different years, or the different season of the same year. This, however, I know, that there was only one species of continued fevers to the year 1665, and that the autumnal intermittents, which were frequent to that year, appeared afterwards very rarely.

5. The above-mentioned tertian fever, which spread very wide in 1661, as was said above, contracted itself in the succeeding year; for, in the following autumns, quartans prevailed over the other epidemics, during this constitution of the air. As the quartans always grew milder after the autumn, the continued fever, which appeared more rarely during all this time, now raged more violently, till the spring, when vernal intermittents succeeded, which also going off at the beginning of May, the small pox appeared a little, but disappeared again upon the coming in of the

* The intermittent thus described partook of a highly inflammatory, bordering upon a malignant character. The bilious yellow fever appeared in the same tertian type in many instances during its late prevalence in Philadelphia, and was generally fatal where copious depletion was neglected, and the cure attempted by bark.

autumnal epidemics; viz. the continued fever and quartans, which then reigned. In this order did the epidemic diseases appear and succeed each other, during this whole constitution of the air; of which I am now to treat in particular, especially of the continued fever, and intermittents, whether vernal or autumnal, these being the chief distempers of this constitution.

6. I begin with this continued fever, which appears to me of a more capital kind than any of the rest; because nature here brought the febrile matter to a due concoction, and expelled it when concocted, in a limited time, more uniformly and regularly, than in any other fever. Moreover, as those constitutions of the year which favour autumnal intermittents return more frequently, taking one year with another, than such as produce other epidemics, it follows that the continued fever attending intermittents occurs oftener than any other continued fever.

7. Besides the symptoms which accompanied other fevers, the present fever had these in particular, viz. 1. a great faintness; 2. vomiting; 3. a dry and black tongue; 4. great and sudden loss of strength; 5. a dryness of the external parts; 6. the urine constantly either turbid or thin, both of them here equally signs of crudity; 7. a looseness in the decline, unless the physician happened to stop it at first, whereby the disease was prolonged, and rendered more obstinate; 8. but in its own natural course it scarce lasted above fourteen, or one and twenty days, when it went off, with a sweat, or rather a gentle moisture;* nor did any proper signs of concoction appear before in the urine; but at this time there generally did.

8. Other symptoms also arose when this distemper was unskilfully treated; however, as not only these, but the nature of the distemper itself will more clearly appear from the particular method which I formerly adapted to this fever, I shall here set it down, as it was then published: at least as far as it regards the present purpose; though at that time I was not aware of there being any other species of fever in nature.

* The reader is requested to attend to this fever going off with a *moisture* and not with a sweat. Chronic fevers which terminate by copious sweats, generally end in death, or some other disease.

CHAP. IV.

THE CONTINUED FEVER OF THE YEARS 1661, 1662, 1663, 1664.

1. MY first observation is, that the irregular commotion raised by nature in the blood, either as a cause or concomitant of this fever, is excited in order to separate from it a certain heterogeneous matter contained therein, and prejudicial thereto : or else to change the blood itself into a new state.

2. And here I rather choose to make use of the general word commotion than fermentation or ebullition ; in order to prevent all fruitless dispute about words, that might arise from the use of those, which, though they may seem harsh and metamorphical to some, are capable of a commodious interpretation. For, though the commotion of the blood in fevers does at different times resemble the fermentations and ebullitions of vegetable liquors ; yet there are those who think this commotion very different from both in more respects than one. For example, say they, fermenting liquors acquire a vinous nature ; so as to afford an inflammable spirit by distillation, and to be easily turned into vinegar, which yields an acid spirit by the same treatment ; yet neither of these changes have been hitherto observed of the blood. Again, fermentation and depuration are both carried on at one and the same time in vinous liquors ; whereas the depuration of the blood in fevers does not accompany but follow the analogous operation ; as appears even to the eye, by the solution of a fever-fit by sweat.

3. As to ebullition, this analogy, they say, is still more harsh, and, in many cases, contrary to experience, where the commotion of the blood is too gentle to deserve the title of ebullition. But not to engage in these controversies, since the terms fermentation and ebullition have prevailed among the modern physicians, I likewise have not scrupled to use them occasionally, meaning only to convey my thoughts more easily thereby. Moreover, that this febrile commotion of the blood is raised by nature, in order to separate an heterogeneous and noxious matter, appears from eruptive fevers, in which an excrementitious matter, of a vitiated quality, that lay concealed in the blood, is by means of the ebullition, thrown out upon the skin.

4. Nor is it less clear to me that a febrile commotion of the blood often tends only to introduce a new state of that fluid, and that a man whose blood is pure and untainted may be seized with a fever ; for fevers frequently appear in healthy bodies, where there was before no previous indisposition, either from a plethora, cachexy, or tainted air, that could give rise thereto. Yet even in these cases, upon some remarkable preceding change of the air, diet, and others of the non-naturals, a fever presently arises, upon

account of the blood's affecting a new state, or disposition, such as this air and diet require, and not because the irritation of vitiated particles, latent in the blood, brings on the fever. Though I make no question but the matter regularly discharged in the despumation of the blood, after the febrile commotion, may prove vitiated, though the blood before was healthy: which is not more strange, perhaps, than that some parts of our food should become corrupt and fetid, after having undergone a remarkable alteration in the body, and suffered a separation from the rest.

5. With regard to this disease, I judge that the genuine indications are, to keep the commotion of the blood within such bounds as suit the design of nature, so as to prevent its rising too high on the one side, whence dangerous symptoms might follow; or sinking too low on the other, whereby either the exclusion of the morbid matter might be hindered, or the endeavour of the blood affecting a new state be frustrated. And hence, whether the fever be owing to the irritation of any heterogeneous matter, or to the blood's attempting a new change, the indication of the distemper will, in either case, be the same, and upon this foundation I proceed to the cure in the following manner.

6. When the blood is weak, as it generally is in children, or wants its due proportion of spirit, as in declining age,* or even in young persons worn out by a lingering illness, I refrain from bleeding: Otherwise the blood, being already too weak even without taking any of it away, might prove absolutely unequal to the business of despumation; whence the whole mass becoming corrupted, death might easily ensue. Thus a hasty check can scarce be put to the fermentation of wine, without injuring the liquor: for nature cannot bear the corrupt particles she has once begun to throw off, which though they were pure, whilst equally mixed with the blood, now strongly tend to taint the rest of the juices. I am well aware, however, that where bleeding has been imprudently used, the patient may be sometimes saved by means of proper cordials, and the blood reduced to a proper temper for

* Our author means in this place by "weak blood," that which coheres but feebly, but this is sometimes a mark of preternatural strength in the blood vessels, instead of weakness, and is an indication of the necessity of bleeding. It becomes more viscid by means of this remedy, so as to pass from a dissolved, to a buffy state, and again back again by repeating the bleeding to a state of weak cohesion. The blood of old people is generally of a loose texture, not from weakness, but from the increased action of the blood vessels upon it. This is evident from the increased fulness and slowness of the pulse in old age. It is a great mistake to suppose, as our author does, that a buffy coat upon the blood is the only call for bleeding. There are several morbid states of the blood which indicate a higher grade of disease, and a more vehement call for the use of the lancet.

performing the necessary despumation: but prevention is better than cure.

7. When the blood happens to be of a contrary disposition, as it usually is in young persons of a strong and sanguine habit, I esteem bleeding the first step to the cure, and not to be omitted without danger, except in the cases hereafter mentioned; for without it, not only deliriums, phrensies, and the like disorders from inflammation, might arise from too great an effervescence of the blood, but also the circulation might be obstructed, or the whole mass, in a manner, stagnate from its excess in quantity.

8. As to the proportion, I usually take away no more than I conceive may prevent those inconveniencies, which, as we said above, might proceed from an immoderate commotion of the blood; afterwards regulating the degree of heat, by repeating or omitting bleeding occasionally, together with the free or sparing use of warm cordials; and lastly, by the use of laxatives or astringents, as I observe the commotion to prevail or languish.

9. After bleeding, where it was necessary, I carefully inquire whether the patient has had any vomiting or retching at the beginning of the fever; and if he has, I order an emetic, unless the tender age, or some remarkable weakness of the patient should contra-indicate. Where a retching has preceded, a vomit is so necessary, that unless the humour be expelled, it produces several other different symptoms, not easy to be removed in the course of the cure, and highly dangerous to the patient. The principal and most common of these is a looseness, which generally happens in the decline of the fever, if emetics were omitted when they were indicated; for in the progress of the distemper, when nature has in some degree subdued the malignant humour in the stomach, and thrown it lower, it, by its sharpness, and the constant supply derived from above, so corrodes the intestines, that a looseness must necessarily follow. I have, however, observed in such inflammatory fevers, as are commonly called malignants, that though a vomit has been omitted, when retchings at first appeared, yet a diarrhœa does not necessarily follow, as it did in the present: but more of this hereafter.

10. Now the danger of this diarrhœa lies here, that it farther debilitates the patient, already sufficiently weakened by the disease, and, what is still worse, happens in the decline of the fever, when the blood ought to collect itself, and exert its force to finish the business of despumation, but is hindered by this evacuation.

11. What makes it still plainer, that this humour lodged in the stomach, if not discharged by a vomit, may bring on a looseness afterwards, is that, upon examination, we scarce find any instance of a looseness attending this fever, but where the patient was apt to vomit at the beginning, and an emetic was not

given : as, on the other hand, though this inclination to vomit be over, yet the looseness generally stops upon giving a vomit, provided the patient be strong enough to bear it : and I have frequently observed, that upon the coming on of a looseness in this case, astringents, either internally or externally given, have very little, if any, force in stopping it.

12. The emetic I generally used was of this kind.

Take of the infusion of *Crocus metallorum*, otherwise called *vinum benedictum*, six drachms, oxymel of squills, and compound syrup of scabious, each half an ounce : mix them for a vomit.

I directed it to be given in the afternoon, two hours after a light dinner ; and to make it work the safer and better, ordered three quarts, or a gallon of posset-drink to be in readiness, because this kind of emetic is dangerous, unless plentifully diluted ; and therefore as often as the patient vomited, or purged, he was directed to take a draught of the posset-drink, by which means griping was prevented, and the vomiting rendered more easy.*

13. When I have happened sometimes carefully to examine the matter here thrown up by vomit, and found it neither considerable in bulk, nor of any remarkable bad quality, I have been surprised how it should happen that the patient has been so much relieved thereby : for as soon as the operation was over, the severe symptoms, viz. the nausea, anxiety, restlessness, deep sighing, blackness of the tongue, &c. usually abated, and went off, so as to leave the remainder of the disease tolerable.†

14. We should not omit, that if the state of the patient requires both bleeding and vomiting, it is safest to bleed first, and give the vomit afterwards ; otherwise there would be danger that, whilst the blood-vessels are greatly distended, the violent motion in vomiting might burst the vessels of the lungs, or hurt the brain, and occasion a vomiting of blood, or a mortal apoplexy : of which I could give some instances, if it were proper, but my design is only to caution.

15. As to the time of giving a vomit, I would have it done at the beginning of the fever, if possible, in order to prevent

* The discovery of *Ipecacuanha* as an emetic, in cases where danger might arise from antimonial emetics, has rendered the plentiful draughts of liquids unnecessary to prevent pain, or spasms, from the use of this remedy.

† The safety and efficacy of emetics in preference to purges in the close of chronic low fevers are taken notice by Dr. Huxham. I have often followed this practice, and concur with Dr. Huxham in the correctness of his remark. They gave relief in the above cases, by destroying weak morbid actions, and creating a more powerful and more transient, and at the same time a more safe one in the stomach.

those terrible symptoms arising from a collection of humours in the stomach and parts adjacent; and thus, perhaps, the distemper may be crushed in the beginning, which might otherwise increase, and prove both obstinate and dangerous, whilst supplied by these humours, which, entering into the recesses of the body, may mix with the mass of blood, or, growing more corrupt by longer continuance, communicate a malignant quality thereto. We have an instance of this in the cholera morbus, where, if we sometimes unseasonably endeavour to stop the vomiting, either by laudanum, or astringents, and the attempt succeeds, we bring on a no less dangerous train of symptoms. For the acrimonious and corrupt humours, which ought, in some measure to be discharged, being by this means detained, exert their force upon the blood, and raise a fever, which usually proves of a bad kind, and is accompanied with dangerous symptoms, so as scarcely to be removed without giving a vomit, even though the patient has then no tendency to such an evacuation.

16. But if, as it frequently happens, the physician is called so late, that a vomit cannot be given at the beginning of the fever, yet I should judge it proper to give one at any time of the distemper, provided the patient is not too weak to bear it. I have successfully ordered an emetic on the twelfth day of the distemper, even though the spontaneous retchings were over; and by this means have stopped the looseness that hindered the blood from finishing its depuration, and I should not scruple attempting the same later, if the strength of the patient permitted.*

17. In the evening after the operation, I always endeavour to quiet the disturbance raised in the juices by the emetic, and to procure sleep; and therefore direct a paretic draught to be taken at bed-time, after the following manner.

Take of the distilled water of red poppies, two ounces; aqua mirabilis, two drams; syrup of white and red poppies, each half an ounce: mix the whole for a draught.

18. But if there be no danger in raising too great an effervescence in future, either on account, 1. of plentiful bleeding, used in

* This remark deserves the attention of the reader. Experience justifies it. The emetic in these cases does good, by the new actions and determinations it induces in the system. The weakness induced by the fever is no objection to its use, for it is remarkable, emetics are much better borne in these cases than purges, or any other depleting remedy.

the course of the cure ; 2. frequent vomiting or purging upon the use of an emetic ; 3. the present disappearance of the fever ; 4. its mildness ; or 5. its natural decline ; then instead of the draught above set down, I give, without apprehension, a sufficiently large dose of diascordium, either alone, or mixed with some cordial water : and this is an excellent medicine, provided it be given in a suitable quantity.

19. Under the article of vomits, we should not omit to observe, that it is by no means safe, at least in this fever, to give such as are made with the infusion of crocus metallorum, even in the smallest quantity, to children under the age of fourteen. It were indeed to be wished, that, instead of this emetic, we had others of a safer kind, yet so sufficiently efficacious, as thoroughly to discharge the humour, which in the decline of this fever, generally brings on a looseness ; or at least were possessed of some proper remedy for changing or dissolving this corrosive matter, and blunting its force, so as to hinder it from producing a diarrhœa.* It has often been a difficulty with me, when called to infants and children in a fever, and observing an emetic indicated, whereby they might have been preserved from danger, that I durst not give this infusion for fear of a bad consequence ; but in grown persons I have hitherto found no ill effect from it, provided it were given with the cautions above mentioned.

20. When the affair of vomiting is over, I next consider,

1. Whether, notwithstanding the preceding evacuations, the blood may not still hurry on so fast as to require a check ; or,

2. On the other hand, whether it may not languish so much as to require quickening ; or, lastly,

3. Whether the fermentation is now brought to such a proper state or degree, as that it may be safely left to itself.

Something must be said to each of these cases.

21. 1. If the blood hurries on so fast as to give a just suspicion of a delirium, or other bad symptom coming on, the day after the emetic I generally prescribe a glyster.

Take of the common decoction for glysters, one pint ; syrup of violets, and brown sugar, each two ounces : mix them for a glyster.

This glyster I order to be repeated occasionally, by which means the blood is often so refreshed and cooled, as sufficiently to check its effervescence. It sometimes likewise becomes ne-

* Happily for infants and children, an emetic so ardently wished for by the author, has been discovered in Ipecacuanha. Their diseases often require emetics, and experience shows they are more safe and effectual in them, than in the diseases of adults.

cessary to repeat bleeding once or twice ; as particularly in persons of a very sanguine constitution, and in the prime of life, or such as have inflamed their blood by using wine too freely ; though there is seldom occasion for so capital a remedy as repeated bleeding, and therefore glysters may suffice to check the effervescence, except in the cases just now mentioned. If therefore the effervescence of the blood be too high, I order a glyster to be injected every day, or every other day, as the case requires, till about the tenth day of the distemper.

22. But when a large quantity of blood has been taken away, or the patient is in years, I at this time order no glyster, though the effervescence of the blood should be considerable : for, in these cases, as we need not fear its rising so high, without the use of glysters, as to bring on any great and dangerous symptoms ; so, on the other side, it is certain that the strength and texture of the blood may be so impaired and relaxed by the use of them, as thus to disturb and hinder the procedure of nature, especially if the patient be in years ; for glysters do not succeed so well in the old as the young. But if only little blood has been taken away, then, as was said before, I continue the use of glysters to about the tenth, and sometimes to the twelfth day ; as particularly when I durst not bleed at all : for some persons are seized with a continued fever after an autumnal intermittent, whether tertian or quartan, for want of purging at the close of the preceding distemper ; and if blood should be taken away in this case, there is danger of the sediment, deposited in the former fermentation, being re-absorbed into the mass of blood, and occasioning fresh disorders. Instead of bleeding therefore in such cases, I continue to use glysters to the 12th day, if the patient be young, and the fermentation too violent.

23. 2. On the other hand, whether bleeding has been used or not, if the effervescence of the blood sinks too low, and requires raising in order to assist nature in her work ; in this case I judge that no glyster should be injected even before the 10th day, and much less afterwards. Otherwise we might thus farther check the fermentation, now already too languid of itself. But to use glysters after this time, viz. in the decline of the distemper, would be as absurd, as to stop the fermentation of wine, before the despumation was performed, by opening a large vent-hole : for a glyster here would hinder nature in her vigorous endeavour to throw off the morbid matter.

24. But when once the patient is out of danger from those symptoms arising from too great an ebullition, either by means of proper and seasonable evacuations, or that the disease begins to decline, the more costive he is kept, the more secure I judge him ; the febrile matter then proceeding more kindly and gently to concoction. And, therefore, if the preceding evacuations

should either actually dissolve, or tend to dissolve, the mass of blood, or the fever go off before its due time, or before it is come to its full period, I not only refrain from the use of glysters, but also call in the assistance of cordials, and directly endeavour to prevent a purging.

25. Cordials, as I have experienced, when given too soon, do mischief, and unless bleeding has preceded, may drive the crude matter of the distemper upon the membranes of the brain, the pleura, &c. and therefore I never give them when either no blood, or very little has been taken away; or when no other considerable evacuation has been made; or the patient has not passed the meridian of life. For whilst the blood remains rich enough of itself, it should not be more enriched, to the endangering the patient; nor does it require to be raised, so long as no remarkable evacuations have diminished its natural heat. Such kind of patients have cordials within them, which render external ones either needless or prejudicial, and therefore I here either used none at all, or those of the weakest sort.

26. But if the patient should be greatly weakened and dispirited by copious evacuations, or be in the decline of life, I usually allow of cordials, even in the beginning of the fever; and on the twelfth day, when the business of separation is at hand, I judge a freer use of the warmer medicines allowable; and they might be given earlier, if there be no danger of the febrile matter's falling upon the principal parts. For at this time, the more the blood is heated, the more the business of concoction is promoted.

27. I cannot imagine what physicians mean by their frequent precepts for giving remedies to promote the concoction of the febrile matter, which they often talk of in the beginning of the distemper, though at the same time they order only such medicines as may moderate the fever. For the fever itself is no other than the instrument of nature, by means whereof she separates the vitiated parts of the blood from the sound; though she does this in a manner perfectly imperceptible at the beginning, and even at the state of the distemper, but more manifestly in the decline thereof, as appears from the sediment in the urine. The concoction of the febrile matter here means no more than a separation of the morbid particles from the sound, whence the way to hasten this concoction is, not by moderating the fever, but the effervescence must be kept up so long as the safety of the patient will give leave: but when the disease is in the decline, and the separation becomes manifest, warmer medicines should be immediately given, in order to finish the operation with greater certainty and expedition. And this is properly promoting the concoction of the febrile matter; whereas I have frequently found that evacuations and coolers hinder the

cure, and put back the recovery that was now approaching. But if the fermentation advances sufficiently, despumation will be finished about the fourteenth day; whereas if coolers are given too late, so as to check the effervescence, it is no wonder if the fever run on to the 21st day, or even much longer, in persons extremely weakened with ill treatment.

28. It is remarkable here that, though the patient may sometimes seem to be a little relieved by the use of glysters, or other purgatives, unseasonably directed about the decline of the distemper, and even, perhaps, to be totally freed from the fever; yet, a day or two after, it happens that the former fever does not so much appear to return, as a new one to arise; for chillness and shivering presently come on, and are soon followed by heat and a fever, which, unless it happens to degenerate into an intermittent, runs its course as already described. In this case the patient is to be treated in the same manner as if he had not had the fever before; for (how painful soever it may be to the patient, much weakened by the former disease, to wait so long for his recovery) the depuration consequent upon this new effervescence will not be performed in less than fourteen days.*

29. I shall next set down the cordials which I generally use in this distemper, the milder of which I employ at the beginning, when the ebullition is violent, and gradually proceed to the hotter, according as the fever, or the degree of ebullition requires; always observing, where bleeding was freely used, or the patient was in years, to administer those of a stronger kind, than when no blood had been taken away, or the patient was in the vigour of life.

30. The milder cordials I mean are such, for example, as are made of the distilled waters of borage, citrons, strawberries, the compound scordium water, with a mixture of the syrup of balm, cloves, or juice of citrons, &c. But the stronger are Gascoing's powder, bezoar, confection of hyacinth, Venice treacle, with others of the same kind. The following prescriptions were frequently used.

Take of the distilled waters of borage, citron, black cherries, and compound scordium water, each two ounces; barley cinnamon water, one ounce; prepared pearl, two drams; fine sugar, two ounces, or a sufficient quantity: mix them toge-

* Experience proves that a relapse of an inflammatory fever should be treated with the same depleting remedies that were employed in the fever which preceded it, and it is from the neglect of doing so, under an erroneous belief that the system is too much debilitated to bear them, that so many more deaths occur from relapses, than from original fevers.

ther.—Take four spoonfuls of this mixture often in a day, especially when faint.

Take of the distilled waters of the whole citron, and strawberries, each three ounces; the cooling cordial water of SAXONY, one ounce; treacle water, syrup of balm of FERNELIUS, and of the juice of citron, each half an ounce: mix them for a julap; some of which is to be taken frequently.

Take of GASCOING's powder, oriental and occidental bezoar, and LAPIS CONTRAYERVA, each a scruple; a single leaf of gold; bring the whole into a fine powder, of which take twelve grains, as often as there shall be occasion, in syrup of the juice of citron and cloves, each two drams; drinking after it a few spoonfuls of the julap above directed.

Take of treacle water, four ounces; the seeds of citron, two drams; beat them together and make an emulsion: to the strained liquor add sugar sufficient to sweeten it to the taste.

—Take two spoonfuls of it thrice a day.

It would be needless to add any more forms of medicines, because a great number are, or may be, of use in the course of the distemper, and require to be varied according to its different stages, and the different symptoms arising therein.

31. 1. But when the fermentation neither rises too high, nor sinks too low, I leave it in that state, without prescribing any medicines, unless forced to it by the importunity of the patient, or his friends; and then I direct such only as may please without prejudicing.*

32. I should not omit, that frequently, when I was called to persons of low circumstances, I ordered them to do nothing else, after bleeding and vomiting when required, but to keep in bed during the whole course of the distemper, and to sup only water-gruel, barley gruel, and the like; to drink moderately of warm small beer to quench their thirst, and to take a glyster of milk and sugar every day, or every other day, till the tenth or eleventh day of the distemper; but towards the end of the fever, when the separation was begun, and proceeded slowly, to promote it, I allowed them now and then a little stronger malt liquor, instead

* It is a great attainment in skill in a physician to know when to desist from the use of medicine, or where this is opposed by the prejudices of the sick, to prescribe such articles as will not disturb the system. "*Nulla medicina, aliquando optima medicina*," said an ancient writer; that is, no medicine, is sometimes the best medicine. The truth of this remark is strongly illustrated in the next section in which we are told, cures were performed after suitable depletion, without the aid of many of those remedies which may be considered as the luxury of medicine.

of cordials. And thus without any thing further, except a gentle purge at the end of the distemper, they generally did well.

33. If the method above delivered was carefully observed, I commonly, about the fifteenth day, found it proper, from the laudable separation in the urine, and a manifest abatement of all the symptoms, to order a purging potion, to drain off the sediment deposited upon particular parts by the preceding fermentation; and unless this was seasonably done, that sediment might return into the mass of blood, and occasion a return of the fever; or, by its continuance in the parts where it lodged, produce obstinate disorders in the body. For the separation being now over, the gross and vitiated humours, transmitted from the arteries to the veins, easily prevent the return of the blood, whence various kinds of obstruction, and, at length, new ferments arise.*

34. But it may be here observed, that purging is not so necessary after vernal, as after autumnal fevers, because the sediment deposited by the former is neither so copious, nor of such an earthy malignant nature as in the latter; which holds also in the small pox, and many other distempers that rage in the spring; so that here, as far as I observed, it is not so dangerous to omit purging, as in the cases before mentioned. And it seems to me, that more distempers arise from an omission of purging after autumnal disorders, than from any other single source.

35. If the patient happens to be very weak, or the depuration not perfectly performed, so as to render it unsafe to give a purge on the fifteenth day, I defer it to the seventeenth, and then prescribe the following, or the like, purging potion, in proportion to the strength of the person:

Take tamarinds, half an ounce; the leaves of sena; two drams; rhubarb, one dram and a half; boil them together in a sufficient quantity of water, so as to leave three ounces when strained off; in which dissolve manna and syrup of roses, of each one ounce: mix the whole for a purging potion, to be taken in the morning fasting.

36. I always order the patient to keep his bed till he is purged, then permit him to rise, and by degrees return to his ordina-

* Great judgment is necessary to know when to purge, and when to desist from it in the close of the fever. In general, the state of the pulse as to strength and weakness should be the guide of a physician in the use of this remedy. Purging is likewise more proper in the close of autumnal fevers, from the accumulation of bile in the bowels, than in fevers of other seasons, as has been justly remarked in the succeeding section.

ry way of living. The diet I order to this time is nearly the same with that above mentioned; as water-gruel, barley-gruel, panada made of bread, the yolk of an egg, water and sugar, thin chicken broth, small beer, to which, when the fever is high, a little fresh juice of oranges may be added, it being first just boiled over the fire to take off the rawness, with the like; though water-gruel may serve for them all. But to forbid the drinking moderately of small beer is a needless severity, and often pernicious.

37. It sometimes happens, especially in the aged, that though the fever is cured, and the body perhaps rather too much purged, that the patient still remains very weak; and, with coughing or spitting, expectorates a large quantity of viscid phlegm: a symptom terrifying not only to the patient, but also to the physician, if not apprized of it, who might otherwise mistake it for a beginning consumption: though I have found it not very dangerous. In this case I order a glass of old Malmsey, Falernian, or Frontignac, with a toast; which, by strengthening the texture of the blood, (much weakened by the preceding fever, and therefore rendered unfit to assimilate the juices of the aliment lately taken) removes this symptom in a very few days, as I have found by repeated experience.

38. By the method here laid down, the patient will be preserved from several symptoms and disorders usually ascribed to malignity; nothing being more common with unexperienced physicians, than to lay the blame on malignity, when by too cooling remedies, or the unseasonable use of glysters, they have weakened the texture of the blood, and reduced nature so low, whilst she was performing the office of separation, as to bring on faintings and other bad symptoms, which are the genuine effects of such perverted rules of art: but if the long continuance of the disease should wipe off this aspersion of malignity, whatever afterwards obstructs them in the cure, they impute to the scurvy; though in reality the symptoms that happened in the height of the disease were neither owing to malignity, nor those that appear in the decline, to the scurvy, but both of them to wrong management, as I have frequently observed. Not that I, nor any other physician, who is acquainted with the history of diseases, will say that there are no fevers of a malignant nature, for there are manifest signs of such; nor will I deny that a fever may be sometimes complicated with a scurvy and other disorders; but what I assert is, that both malignity and the scurvy are here frequently blamed without reason.

39. When the fermentation of the blood proceeds in a proper manner, the despumation of the morbid matter will be finished in the time above mentioned; but if cooling medicines, or glysters, are given too late, the fever will run to a much greater length, especially in aged persons that have been improperly

treated. When I have sometimes been called to such, after they have struggled with the fever above forty days, I have used my utmost endeavours to procure the despumption of the blood, which was now so far weakened, partly by age, and partly by glysters and cooling medicines, that I could not obtain the end proposed, either by cordials, or any other strengthening remedies; but either the fever maintained its ground, or, if it seemed to go off, the strength of the patient was almost quite exhausted.

40. But when other means failed me, I have made use of a singular expedient with great success, namely, the application of the heat of strong and healthy young men: nor will it be found surprising, that by this uncommon means the patient should be considerably strengthened, and debilitated nature assisted, so as to disburden herself, and throw off the remains of the morbid matter; for it is easy to apprehend that a considerable quantity of sound and wholesome effluvia will thus pass from a robust, healthy body, into the exhausted body of the patient; and I have never found the repeated application of warm napkins to prove near so serviceable as the present method, where the heat applied is not only more natural to the human body, but also more mild, moist, equable, and constant. And this way of transmitting, perhaps, balsamic spirits and exhalations into the body of the patient, however quaint it may seem, has also since been successfully used by others.* Nor do I think it below me to have mentioned this expedient, whatever censure it may expose me to, from such as condemn whatever is vulgar; as judging the health and benefit of mankind ought to be preferred to their false opinion of things.

41. By carefully pursuing the method hitherto delivered, the greater part of the bad symptoms, that either accompany, or follow upon this fever, will be prevented, which otherwise, in the course of the cure, frequently perplex the physician, and prove fatal to the patient, though the disease itself should have no such destructive tendency. But as such accidents are common, if the physician come too late, be negligent, or unskilful, I will here briefly treat of the cure of those symptoms, which, when they happen, require a peculiar treatment, though they might generally have been prevented, by keeping close to the above-mentioned method.

42. And first, if a delirium be occasioned, either by the too early and unseasonable use of heating medicines, or the patient's being naturally of a hot constitution; or, which is nearly the same,

* The benefit of this remedy is derived perhaps wholly from the uniformity and extent of the heat applied to the debilitated body.

if he has constant watchings, raves, speaks hastily, looks wild, takes his medicines, or rather liquids eagerly, or has a suppression of urine: in this case I bleed more freely, order glysters and cooling medicines, particularly in the spring, at which time such as are young and florid, though free from this symptom, may be treated in the same manner, without much danger.

43. By these means I endeavour to support the patient, till the disease is run to a certain length, when I find it easy to take off both that and the delirium, by a large dose of some opiate; for anodynes properly given in the decline are very beneficial, whereas they prove of no service whilst the fever is high, though given in the largest dose, as being unable to stop the violent course of the fermentation; but chiefly because the peccant matter, then equably mixed with the blood, and not ripe for separation, is confined, whence the expected depuration is hindered. Whether this be the reason of the thing, or it proceeds from some more latent cause, I leave to the determination of others.

44. This, however, I can affirm from numerous observations, that laudanum or any other narcotic used to take off this symptom, whether in the beginning, increase, or height of this fever, was either ineffectual or prejudicial; whereas a moderate dose in the decline proved successful. I once ordered a narcotic upon the twelfth day of the disease, with success, but never knew it given sooner with advantage; and if it be deferred to the fourteenth day, when the separation is more perfect, it will prove still more beneficial. For I have frequently observed, that the delirium may be disregarded, till it is proper to give an opiate, provided the disorder be not increased by the use of cordials, and heating medicines, which may here prove mortal. The opiates I usually prescribe, are, either London laudanum to a grain and a half, or the following:*

Take of cowslip flowers, one handful, boil them in enough black cherry water to leave three ounces, when strained off; to which add syrup of white poppies, half an ounce; juice of lemons, half a spoonful; mix the whole together. Or,
Take of black-cherry water, one ounce and a half; plague-water, two drachms; liquid laudanum, sixteen drops; mix them together.

45. It may be proper to add, that if this symptom be not very urgent, and the fever be prolonged, so as that the patient may be

* This remark is strictly correct and very important. Our author practically admits the stimulating effects of opium.

safely purged before an opiate is given, it will then be attended with greater success. And therefore I usually direct two scruples of the greater *Pil. cochix*, dissolved in betony water, to be taken ten or twelve hours before the opiate; and thus the disturbance this warm purgative might otherwise occasion will be prevented by the opiate, and an agreeable sleep procured. But if the watching continues after the fever, and the other symptoms are gone off, I have known a piece of linen dipt in rose water, and applied cold to the forehead and temples, prove of greater service than any kind of opiate.*

46. It is usual for the patient to be afflicted with a bad cough during the whole course of the disease, arising from the violent commotion of the blood, whereby the juices being broke, are separated from the mass, in its circulation through the pulmonary vessels, and thrown upon the internal membrane of the trachea, which is of a fine texture, and extremely sensible. The cough is first dry, the matter being then too thin to be expectorated; but the febrile heat gradually thickens it, and soon renders it more tenaceous, whence it is with difficulty expectorated; and becomes apt to cause a suffocation, for want of sufficient strength in the patient to discharge it. In this case I seldom use any other medicine than fresh-drawn oil of sweet almonds, unless, as it sometimes happens, the patient has an aversion to oil, and if so, I endeavour to relieve him by the common pectorals. Otherwise I prefer the oil of almonds to all other pectoral medicines, chiefly because to answer the intention they must be given freely, and in large quantities; whereby the stomach, already too weak, and subject to retchings, is overcharged; and, besides, we are sometimes by this means prevented from giving what is proper upon other accounts.

47. Again, neither reason nor experience have yet convinced me that the use of this oil is not to be allowed in fevers, because it is of an inflammable nature, and consequently may tend to increase the distemper; for granting it to be naturally hot, it is, however, certainly not so hot, but that the advantages arising from its use are greater than the inconveniencies. For it is an excellent pectoral, opens and lubricates the passages, thereby promoting expectoration, which, when copious, frees the blood from the noxious humour, now seasonably separated, and at the same time tends to cool; so that this symptom thus proves of considerable service, for which reason I am not anxious about it. Let it, however, be observed, that it is unsafe to give several spoonfuls of oil of almonds at once, as retchings and a looseness may thereby

* Cold water is in general equally efficacious with the rose water applied to the forehead and temples to relieve febrile head ach.

be occasioned; but the frequent use of it in small quantities, throughout the day and night, not only eases the cough, by promoting expectoration, but, which is very material, the patient, now almost worn out, will be in some measure recruited by this kindly nourishment.

48. Sometimes a bleeding at the nose happens, either from giving too warm medicines in the beginning of the fever, or from not sufficiently depressing the ebullition of the blood, the patient either being in the prime of life, or the season of the year conspiring with the fever. Here the means commonly made use of to check the motion of the blood will be of little service; such as bleeding, ligatures, astringent, agglutinant, balsamic medicines, &c. though recourse may be had to these and the like helps, according as they shall be judged proper; but the principal thing is, to stop the violent ebullition of the blood by a proper medicine; though, in reality, if this symptom be considered apart, the remedies above mentioned, and particularly bleeding, should seem to be serviceable therein; nor have I scrupled to use them; yet as they do not (bleeding excepted) strike sufficiently at the cause of this symptom, viz. the ebullition of the blood, it is imprudent to depend upon them; therefore, in this case, when all other means had proved ineffectual, I usually gave the following draught.

Take of the distilled waters of purslain, and wild poppies, each an ounce and a half; syrup of white poppies, six drams; syrup of cowslips, half an ounce; mix them together for a draught.

49. But I judge it improper to put an immediate stop to every hæmorrhage after this manner; for it is frequently rather to be permitted, and may prove of great service, sometimes, by abating the too violent ebullition of the blood, and, at others, by proving critical, put an end to the disease. And, in reality; no considerable effect is to be expected from the above-mentioned remedy, unless the symptom has continued some little time, and bleeding in the arm preceded its use. Again it must be carefully remarked, that this and all other immoderate hæmorrhages are peculiarly apt to return, soon after a stop has been put to them, unless a gentle purge be given, which therefore must not be omitted, even though it should seem too early to purge, with respect to the stage of the fever, if this symptom had not happened.

50. The hiccup generally happens to the aged, after an immoderate looseness, but chiefly after excessive vomiting, and frequently prognosticates imminent death, I ingenuously own that I have not been able to satisfy myself in my inquiry into the cause

of this symptom ; but I have frequently observed it to proceed from some disturbance raised in the stomach and adjacent parts by violent medicines, not without great danger to the patient, because nature is unable to check and quiet this commotion ; and on this account I judged it proper to assist her by art, by giving a large dose of diascordium, viz. two drams, which seldom failed to remove this symptom, when the seeds of dill and other celebrated specifics had proved ineffectual.*

51. If, as above intimated, a looseness should happen in the course of the disease, for want of giving a vomit at the beginning, when it was indicated by the retchings ; one should be given at any time of the disease, provided the patient be strong enough to bear it, even though there be now no tendency to that evacuation. But as this has been largely treated in the foregoing pages, I shall only mention what is proper to be done, if a looseness should happen, notwithstanding an emetic has been given ; which is very seldom the case, except in an inflammatory fever, where this symptom, so far from being prevented, is sometimes occasioned by a vomit ; which is an observation of consequence. And here I have found the following glyster more efficacious than any other astringents.

Take of the bark of pomegranates, half an ounce ; red roses, two pugils ; boil them in a sufficient quantity of milk, so as to leave half a pint of strained liquor, in which dissolve half an ounce of diascordium : mix the whole for a glyster.

It is improper to inject a larger quantity of this glyster than is here directed, though it may be naturally astringent ; because the intestines may be oppressed by its bulk, whence the looseness will rather be promoted than checked.

52. But it may be said, that if a diarrhœa should appear, especially in the decline of the disease, it is better to encourage than stop it ; as it is sometimes a critical discharge, and terminates the distemper. This undoubtedly may sometimes be the case, but it happens so rarely, as not to encourage one to attempt it ; besides, the reason before alledged, in treating of the cure of fevers in general, which tends to show the necessity there is of stopping the flux, holds here also. And to this may be added, that in order to the genuine depuration of the blood, it is not only necessary there should be a secretion of some feculent parts, but there is further required a separation of others by way of efflo-

* Hiccup occurs in the close of fevers from other causes than violent medicines. When opiates fail of relieving it, from five to ten drops of the oil of amber taken every two hours, often cure it.

rescence, as we daily see in other rich and heterogeneous liquors ; consequently, if the looseness be too much promoted, the depuration will not be wholly completed, and perhaps the matter that ought to have been last expelled, will pass off first. I own, indeed, that after the separation by way of efflorescence is finished, which is usually performed gradually and insensibly, and by means of a freer perspiration, rather than of a manifest sweat, if then a looseness should happen, it would be attended with little danger ; for it must be observed, that now it is only owing to a neglect of purging in time, whence the excrement, for want of being evacuated, contracting a kind of malignant ferment, irritates the intestines to discharge their contents ; besides, the very liquid consistence of the excrement is a proof that the looseness ought not to be accounted a critical solution of the disease.

53. Possibly the iliac passion deserves to be enumerated among the symptoms consequent upon fevers, since it is sometimes occasioned by immoderate vomiting in the beginning of the disease. This terrible disorder, which has hitherto generally been esteemed fatal, is owing to the inversion of the peristaltic motion of the guts, whence their contents are forced upwards, and thrown out by vomiting, so that the strongest glysters become emetic, as do likewise cathartics, immediately after being taken ; and I judge the exquisite and intolerable pain attending this disorder, proceeds only from the inverted peristaltic motion of the bowels, whose natural formation is such, as by their many folds to promote the descent of the fæces in the properest manner ; and therefore whenever they are forced to yield to a motion opposite to that of their fibres, a pungent pain is occasioned, which remains fixed upon a particular part, when either the valve placed at the beginning of the colon, to prevent the return of the excrement into the ilium, or any other membrane belonging to the cavity, singly sustains the force of this preternatural motion. This inverted motion, productive of the pain, may proceed either from 1. obstruction, or 2. irritation.

54. 1. It is manifest that whatever block up the passage of the intestines, must needs occasion this contrary motion in them ; and this may happen, according to authors, 1. from hardened excrements, 2. much flatus collected in the bowels, and, as it were, pursuing them up, 3. strangulation from a rupture, 4. inflammation, 5. and lastly, large swellings filling up their cavity. However, it is plain that the inverted motion, proceeding from these causes, is rather to be accounted the motion of the aliment taken in, than of the intestines themselves ; nor is it an inversion of the motion of the whole duct, but of those parts only which are situated above the seat of the obstruction ; for which reason I call it the spurious iliac passion.

55. 2. I conceive the inversion of the peristaltic motion generally proceeds from acrid and peccant humours being deposited in the stomach and adjacent intestines, from the violent fermentation of the blood in the beginning of the fever, whereby the motion of the stomach is first inverted, and its contents thrown up with violence, and then the small guts that are contiguous to it-being weakened, yield to the violent motion of the stomach, and at last the large guts are also made to sympathize with them. This is the true iliac passion, and the disorder under consideration. The method of curing it has hitherto remained a secret, notwithstanding the pretensions of such as had recourse to quicksilver and leaden bullets, which do little service, and are frequently very dangerous.

56. As soon as it appears from glysters being vomitted up, and other signs, that the disease is a true iliac passion, I endeavour to answer these three intentions :

1. To put a stop to the inverted motion of the stomach, which produces the same in the intestines.

2. To strengthen the intestines weakened by the sharp humours. And

3. To free the stomach and bowels from these sharp humours.

57. 1. I direct a scruple of salt of wormwood, with a spoonful of lemon juice, to be taken morning and night, and in the intervals give some spoonfuls of mint-water by itself, twice every hour, by the repeated use of which the vomiting and pain may be soon removed. 2. At the same time I order a live puppy to be applied to the belly, till the following purgative is given.* 3. Two or three days after the pain and vomiting are gone off, I give a dram of the greater pil. cochiae, dissolved in mint-water, and direct draughts of mint-water to be frequently taken during the operation of the purge, in order to prevent the return of the vomiting.

58. I have observed, that it is in vain to give this, or any other the strongest kind of purge, before the stomach be strengthened and reduced, together with the intestines, to its natural motion; for otherwise all cathartics will prove emetic, and consequently be more prejudicial than serviceable; and this reason induced me to forbear purgatives, till I had first used stomachics a while.

59. The diet I directed is very sparing; for I allow the patient only to sup some spoonfuls of chicken broth, twice or thrice a day, and confine him to his bed during his illness, and till the

* This remedy has no advantage over soft and warm applications of any kind, except in the uniformity of the heat of the animal. A warm hand has often had the same effect.

signs of recovery appear, directing him to continue the use of the mint-water for a considerable time after the cure, and to keep the belly warm, by wearing a double flannel, whereby a relapse may be prevented, which happens more frequently in this than any other disease.

60. In these few particulars consists my whole method of curing this disease, which, it is hoped, no one will deliberately condemn on account of its simplicity and the want of elegance of language, and the pomp of medicine to recommend it.

61. Thus I have enumerated the symptoms that usually happen in this fever; but there are others I shall not now mention, as they are of less moment, and require no particular treatment, but go off spontaneously, if the fever be skillfully treated. And let this suffice for the continued fever of this constitution, with its symptoms.

CHAP. V.

OF THE INTERMITTING FEVERS OF THE YEARS 1661, 1662,
1663, 1664.

1. The constitution, as we observed above, that prevailed through all the preceding years, having so eminently favoured the rise of all kinds of intermittents, I will here set down the observations I then made concerning them, and also add those which relate to the few intermittents that have happened sporadically since that time, that I may not break in upon the history of the following years.

2. And first it must be observed, that, in order to conjecture something, at least, of their nature, regard must be had to three different stages of the fits of intermittents, viz. 1. the shaking; 2. the ebullition; 3. the despumation.

1. I judge the shaking proceeds from this cause, that the febrile matter, which being not yet turgid, was in some measure assimilated by the blood, becomes at length not only useless, but prejudicial to nature, raises a kind of violent motion in the mass, and endeavouring, as it were, to escape, causes a chilness and shaking; which shew how pernicious in its nature the febrile matter is to the body, in the same manner as purging draughts in weak stomachs, or poison casually swallowed, immediately occasion a shivering, and other symptoms of the same kind.

3. 2. Nature, therefore, being by this means irritated, raises a fermentation in order to expel the enemy with less difficulty;

this being the common instrument she uses to free the blood of its morbid particles, as well in fevers as in some other acute diseases: for by means of the fermentation the separated parts of the peccant matter, that were equably mixed with the blood, begin to be united together in some measure, and consequently may be more easily moulded, so as to be fitted for despumation. That this is probably the case, appears from the death of such as die in the fit, which generally happens in the first stage of it, viz. during the shaking, or cold fit; for if they survive till the effervescence, or hot fit comes, they escape at least for that time. Both these stages are severe, 3. but in the third, namely, the despumation, all the symptoms first grow milder, and after go off entirely. By despumation I mean no more than the expulsion or separation of the febrile matter, now in a manner overcome, when what is thrown off partly resembles yeast, and partly lees, as may be seen in other liquors.

4. Having premised these particulars, I proceed next to shew why the fit returns, though the patient now seems to be out of danger, and this arises from the febrile matter not being wholly thrown off, whence the latent remainder re-appears, according to the nature of the fits, and occasions fresh disturbance, running through the several stages above described. How it happens that this latent remainder (not sufficiently overcome by the preceding effervescence, and consequently not expelled with the other peccant matter) does not proceed with the same regularity in every intermittent, but sometimes requires one day, sometimes two, and at others three days, before it comes to maturity, and causes a new fit, is what I cannot account for; neither do I know that any one has hitherto sufficiently explained this secret operation of nature.

5. I do not desire to be called a philosopher; and as for such as conceive they have a right to this title, and, upon this account, may possibly censure me for not having attempted to dive into these mysteries, I advise them to try their faculties in accounting for the various works of nature, that every where surround us, before they go about to teach others. I would fain know, for instance, why a horse comes to his full growth in seven years, a man in twenty-one; why some plants usually flower in May, and others in June; not to mention innumerable other effects, whose causes are as hard to be discovered. Now if the learned ingenuously confess their ignorance in these points, I see no reason why I should be censured for being silent, in a matter not less obscure, and perhaps wholly inscrutable; especially as I am persuaded that nature proceeds in this case, as in all others, with a certain regularity and uniformity; the matter of tertians

and quartans being not less subject to, and governed by the laws of nature, than all other kinds of bodies are.

6. All intermittents, in general, begin with a chilness and shaking, which are soon followed by heat and then by sweat. The patient usually vomits both in the cold and hot fit, complains of great sickness, is thirsty, his tongue dry, &c. And these symptoms abate in the same degrees as the sweat increases, which, becoming more copious ends the fit. And now the patient continues tolerably well till the fit returns at the usual time; which in a quotidian, happens once in the space of twenty four hours, or a natural day; in a tertian, every other day; and in a quartan, every third day; calculating from the beginning of one fit to the beginning of the next. But the two latter are frequently doubled, so that a tertian comes every day, and a quartan two days successively, the third being the intermediate, or well day: and sometimes, when it proves a triple quartan, it comes three days successively, the intermittent deriving its name from the manner of its first appearance.

7. This redoubling of the fits is sometimes caused by the too great quantity and activity of the febrile matter; in which case the adventitious fit precedes the original one: but sometimes, when the patient is considerably weakened, and the violence of the fit abated, either by too free an use of cooling medicines, or profuse evacuations, the adventitious fit follows the original one, and is both milder and shorter than it. In the former instance, the violent motion of the matter does not wait for the due time of its return, and finishes its despumation in a shorter time; but in the latter, the blood being too weak to throw off the febrile matter at once, immediately causes a fresh fit, in order to expel the remainder. And perhaps upon these two contrary causes, both the anticipation, and the slower approach of the fits, in common regular intermittents, may depend: both which frequently happen in quotidians.

8. Intermittents are either vernal, or autumnal; though some arise in the intermediate seasons, but as these are not so frequent, and may be referred to Spring or Autumn, according as they approach nearest to either, I shall comprehend them all under the two kinds above mentioned. These diseases make their first appearance in February and August particularly; though sometimes they appear sooner or later, according as the air is more or less disposed to produce them, which, of course, renders them more or less epidemic. The autumnal intermittents of 1661 were an instance of this; for I remember a woman was that year seized with a quartan upon St. John's day, and numbers very early in the season; and afterwards in the

declension of the year, these distempers became very epidemic.

9. This distinction of intermittents is so necessary, that unless it be well attended to in practice, no just prognostic can be formed of their continuance, nor a method of cure directed, suitable to the different nature, both of the seasons and disorders. It must be owned, that the intermittents of both seasons do not greatly differ, either as, 1. to the manner of their attack; which begins with a shaking, is soon succeeded by heat, and at length goes off with sweat; or 2. the difference of their appearance, in which respect some are tertians both in spring and autumn: and yet I judge that they differ essentially from each other.

10. I will begin with vernal intermittents, most of which are either quotidian, or tertians, and appear sooner or later, according to the various disposition of the season. For the spirits being concentrated by the winter's cold, gather strength in their recess, and in this lively state are invited out by the heat of the approaching sun, and, being mixed with the viscid juices, wherewith nature had stocked the blood during that season, (which, however, are not so viscid as those whose fluid parts have been dried up and parched by the preceding heat in autumn,) are, whilst they endeavour to escape, detained, and as it were entangled, and consequently occasion this vernal ebullition, in the same manner as is observed to happen upon exposing bottles filled with beer to the fire, after having been long kept buried in sand, or in a cool cellar, whence the liquor begins to work, and endangers the bursting of the bottles. The blood thus disposed, attempts its depuration, and, by means of its volatile spirits, finishes it in a short time; unless the juices be too viscid, so as to check the fermentation: and though this should happen, yet the vernal effervescence seldom proves continued and regular, but generally intermits, and is divided as it were into several fits. For the blood being now turgid with these rich spirits, nature hurries on her work, and by particular fits perfectly completes the secretion of some parts, before she finishes the universal separation. And this seems to be the reason that there are but few continued fevers in spring, and particularly in its decline, unless an epidemic constitution happens to prevail; the fermentations which arise at this time, being either suddenly checked, or hastening to an intermission; or lastly, such parts of the juices as were best fitted for separation, are speedily and violently thrown upon some other part of the body; whence quinsies, peripneumonies, pleurisies, or the like dangerous diseases, immediately arise, especially at the decline of the spring.

11. I have already observed that vernal intermittents seldom last long, and always prove salutary ;* so that the aged or infirm can scarce be endangered thereby, without very unskilful treatment. But I have sometimes known vernal tertians prolonged to autumn, by improper bleeding and purging, along with an unsuitable regimen ; but this season being very contrary to their nature, immediately checked them, the patient in the mean time being almost worn out by the frequent redoubling, and long continuance of the fits, so that he seemed in great danger, though, as far as I have hitherto been able to observe, he always recovered.

12. Neither have I met with those dangerous symptoms, in such as are cured of this disease, which, as shall hereafter be shewn, succeed inveterate autumnal intermittents ; viz. a mortal inflammation of the tonsils, a hard belly, dropsical swellings, &c. But I have often found, when the patients have been extremely debilitated by the long continuance of the disease, the doubling of the fits, and repeated evacuations, that they have been seized with a madness, when they began to recover, which went off proportionally as they gathered strength.

13. But autumnal intermittents differ very much from vernal ones. For though a tertian in those years, when it is not epidemic, and seizes healthy persons, does sometimes go off in a short time, and is accompanied only with the usual symptoms of vernal tertians ; yet when it is epidemic, and seizes the aged, or persons of an ill habit of body, it is not without danger, and lasts two or three months, and perhaps even to the following spring. But quartans are more dangerous and obstinate than tertians, for old persons are sometimes destroyed by a few fits ; in which case they generally die in the cold fit, as we have already observed. Those who have just entered upon old age are not indeed in so much danger of sinking under the disease in so short a time, but are scarce ever cured before the return of the same period of time of the following year wherein they were first seized : and sometimes this disease leaves some disorder behind it, that in the end proves mortal.

* King James the first was a believer in our author's erroneous assertion, that a vernal intermittent was salutary ; and hence he used to tell his courtiers, that

“An intermittent in the spring,
“Was physic for a king.”

From cherishing this opinion in advanced life, he died of that disorder.

14. A quartan now and then changes its face, and likewise produces abundance of morbid symptoms, as the scurvy, a hard belly, a dropsy, &c. But young persons are better able to bear this distemper, from which they are sometimes freed about the winter solstice; though it happens more frequently, particularly when bleeding and purging have been used, that their recovery is prolonged to the subsequent vernal equinox, or even the succeeding autumn. I have often wondered to see infants struggle with this disease for six months and at length recover.

15. It is worth observing here, that if any person be seized with a quartan, who has had it before, though long since, it terminates spontaneously after a few fits, of whatever age or constitution he be.

16. I have always been of opinion that vernal intermittents might be wholly left to themselves, having never known a single person destroyed thereby; and on the contrary have observed that the attempting their cure, especially by evacuating medicines, tended only to render them more obstinate. But if the patient will not be satisfied, unless something be done to relieve him, various methods may be successfully employed for this purpose, as I have frequently experienced.

17. A vomit seasonably given, so as to have done working before the fits begin, sometimes proves a cure; especially if a moderate dose of syrup of white poppies, or any other opiate, be given after the operation is over. Sometimes diaphoretics cure, especially in vernal quotidians, by promoting the sweat that breaks out towards the end of the fit, provided the patient be well covered, and the sweat continued as long as he can bear it; for the juices not being very thick in this season, the disease is perfectly cured, which would otherwise return: but this never happens in autumn. I have also sometimes cured tertians by giving glysters upon three or four of the intermediate days.

18. But if bleeding be used too freely, which inconsiderate persons easily yield to on account of the season; or the spirits, which should directly attempt the business of despumation, be so far impoverished by the preceding weakness of the patient, as to be unable to perform it, vernal tertians may then withstand all our endeavours, and perhaps prove as autumnal ones; though they do not usually continue so long, but either go off spontaneously, or soon give way to the use of a few gentle remedies.

19. But autumnal intermittents, of which I am now to treat, are not so easily conquered. When the constitution is epidemic, they usually appear about June, but otherwise not till August, or the beginning of September, and very rarely in the following months. When numbers are seized at the same time, we may

generally observe that the fits come exactly in the same manner, and at the same hour of the day, a little sooner, or later perhaps, unless this disorder be disturbed in some persons by remedies that either hasten or retard the coming of the fit.

20. It must likewise be noted, that it is a difficult matter at the first appearance of intermittents, especially of those that are epidemic in autumn, to distinguish them exactly; because, at this time, they are accompanied with a continued fever; and for some time afterwards, unless great attention be given, nothing more than a remission can be discovered; but by degrees they perfectly intermit, and put on a form entirely agreeable to the season of the year.

21. They are, however, either tertians or quartans; (but the latter are deservedly accounted the genuine product of autumn) and in reality, so much alike, that they frequently vary, at least for a time, from one to the other; shortly after, perhaps, re-assuming their pristine form. But vernal tertians never assume the shape of quartans, because they differ widely from each other; nor have I ever seen a quotidian happen in this season, unless a double tertian, or a triple quartan should seem to deserve that name.

22. I judge that these intermittents are occasioned nearly in the following manner; viz. as the year advances the blood is likewise proportionably enriched, (just as vegetables shew the course of the year by their growth and decay) till it comes to its height, and ultimate vigour; after which, keeping pace with the time of the year, upon the declension thereof, it also declines; and more particularly when some accidental cause contributes thereto, as great loss of blood, taking cold, the use of indigestible and excrementitious food, unseasonable bathing, and the like. For the blood, being in this depressed state, is subject to every morbid impression that any constitution of the air may communicate to it, which, at this time, tends to produce intermittents, epidemically. And to this the immediately succeeding ebullition tends, which happening sometimes in an extremely vitiated blood, occasions a bad fever, accompanied with several malignant and dangerous symptoms. But from whatever cause it arises, the blood, having lost a considerable share of its spirits, and being greatly parched by the heat of the preceding summer, will perform its ebullition slowly, and require much time to finish its depuration.

23. Now, to shew clearly how difficult it is to cure autumnal intermittents, the dissimilitude between the continued and intermittent fevers of this season must be well considered; which chiefly consists in this, that continued fevers carry on the effervescence once begun, regularly and uninterruptedly to the end

of the disease; whilst intermittents perform the business by parts, and at different times; but in both the effervescence is finished in about three hundred and thirty six hours, the precise time that is ordinarily required for the depuration of the mass of blood in a human body, when the business is wholly left to nature; in the same manner as wine, beer, and cyder have each a peculiar time wherein their depuration is finished.

24. But though the blood sometimes in intermittents, as it happens in a quartan, attempts and at length finishes its depuration in six months; yet by an exact computation it will appear that there is no more time employed here, than is, for the most part, naturally spent in completing the depuration in continued fevers. For fourteen times twenty-four hours, or fourteen natural days, make three hundred and thirty six hours; so that allowing five hours and a half for the duration of every fit of a quartan, the whole will be equal to fourteen days, that is, three hundred and thirty six hours. If now it should be said that a quartan sometimes lasts above six months, which also holds in other intermittents; I answer, that the continued fevers of this constitution are likewise often prolonged beyond fourteen days: but, in both cases, if care be taken to keep up the effervescence in a proper manner throughout the course, and especially towards the declension of the disease, the despumation will be finished in the time above mentioned; whereas, if the fermentation be unseasonably checked by cooling medicines, or glysters, in this stage, no wonder the disease proves lasting: the procedure of nature being by this means disturbed, and the texture of the blood in a manner loosened or broken, so that it cannot effectually attempt the despumation; which also sometimes happens spontaneously in weakly constitutions, unless drooping nature be assisted with cordials to enable her to finish the business of despumation.

25. It must likewise be further observed here, that what has been said of the continuance of the fermentation is to be understood only of such fevers as have arrived to a fixed state; for there are fevers, both of the continued and intermittent kind, which are of a variable nature, and do not reach the limited period in their effervescence. Such are those that sometimes arise from a slight error in the non-naturals, as in aliment, drink, air, and the like: but they often terminate in a short time; as they also do in young persons whose blood is pure, and full of spirits. For as their fevers proceed from a certain spirituous subtle and volatile matter, they finish their fermentation speedily, and go off.

26. Now in order to raise a fermentation, it is necessary that the fermentable matter, whether blood, wine, or any other liquor, be of so viscous and tenacious a nature, as to detain, and,

as it were, envelope the spirits therein contained ; yet so as they may be able to be moved briskly in the liquor, but not to fly off. Let it be remembered, however, that the liquors above-mentioned must not be so viscous, as to oppress the spirits entirely, and so prevent their being moved-at all.

27. These particulars being laid down, which I conceive are rational and well grounded, it will not appear strange that I propose no other method of cure in intermittents than seems necessary to be used in continued fevers, to finish the business of their despumation in a proper manner; since they differ, as to the manner wherein nature usually expels the morbid matter: viz. by means of an effervescence limited to a fixed time: though with respect to their kinds and the peculiarity of their nature, I own they differ greatly from continued fevers, and from each other likewise. The curative indications therefore must be taken either 1. from a careful observance of the steps which nature takes to overcome the disease, that so we may quicken the fermentation already raised, and by this means recover the patient; or 2. we must endeavour to investigate the specific cause, in order to remove the disease by effectual and specific remedies.

28. I have tried both methods with great care and application; but have not hitherto been able to cure autumnal intermittents before they had finished their stated fermentation above specified, however disagreeable it has been to the patients to wait so long for their recovery.* If therefore any one is possessed either of a certain method, or a specific remedy that will not only stop the progress of, but thoroughly cure these disorders, I think he ought to discover it for the good of mankind; and if he does not, I will venture to say, that he neither deserves the character of a good, nor of a wise man: for it is not acting the part of a good man, to convert to his private advantage what might prove so eminently serviceable to the public; nor of a wise man, to deprive himself of the blessing he might justly expect from heaven, by endeavouring to promote the public good. For honour and riches are held in much less esteem by good men than virtue and wisdom.

29. But though it be difficult to cure autumnal intermittents, yet I will set down what I have found do most service in them. Frequent experience has taught me that it is very dangerous to attempt the cure by purging, (unless in the way hereafter to be

* Here our author is seduced by his doctrine of concoction. Modern experience proves that bleeding, purging, or puking may be used with advantage in obstinate autumnal intermittents, provided they are accompanied with inflammatory symptoms.

mentioned) and especially by bleeding: for in tertians, particularly in a very epidemic constitution, if bleeding does not prove a present cure, it prolongs the disease even in young, strong, and otherwise healthy subjects: but aged persons, after having long struggled with it, are destroyed thereby, their death being generally immediately preceded by a mortal inflammation of the tonsils, as above mentioned. Again, bleeding causes those symptoms to come sooner, which, as we said above, accompany autumnal intermittents at their decline, or directly succeed them; but it is so pernicious in quartans, as to occasion a disease to last a year in young persons, which otherwise would have gone off in six months. And in the aged, who, if bleeding had not been used, might have recovered in a year, there is danger of the disease being prolonged thereby beyond its stated time, and of its proving mortal in the end. What has been observed of bleeding holds also of purging, with this difference only, that the latter is less dangerous, unless it be frequently repeated.

30. I begin the cure of autumnal tertians in this manner: the patient being put to bed, and well covered, I endeavour to raise a sweat by giving sage posset drink about four hours before the coming of the fit; and as soon as the sweat begins I give two scruples of the greater Pil. cochiaë dissolved in an ounce of the following mixture:

Take of aqua vitæ, a pint; Venice treacle three ounces; saffron one dram: let them stand together in infusion for use.

These remedies being taken as directed, the sweat is to be encouraged for some hours after the usual time of the coming of the fit, with care to prevent checking it, which might otherwise be occasioned by the operation of the purgative.

31. I have found this more successful in the cure of this disease, than the giving the common decoction, suited to the same intention, made with gentian root, the tops of the lesser centaury, &c. and a little sena and agarick. For as it causes two contrary motions at once, viz. sweating and purging, it produces the same effect as the decoction, by disturbing and interrupting the usual course of the fit; and is more effectual, and as safe. Thus I have

* It is difficult to determine whether the long duration of these intermittents and their occasional mortality were the effect of bleeding, or of its being employed at once. The intermittents in the middle states which continue during the winter and spring yield to bleeding, but it is sometimes necessary to repeat it two or three times. They are often protracted by visceral obstructions, particularly of the liver and spleen, which induce local and general inflammatory action.

cured abundance of autumnal intermittents, and could not find out a better method during these years.

32. When a tertian has varied its form, and is become a double tertian, on account of the patient's having been weakened, either by evacuations, or any other way, a sweat must likewise be raised, as above directed; 30. and at the same distance of time from the coming of the next fit, either by giving the remedy there recommended, or some other powerful sudorific, which may also be repeated in the succeeding genuine fit: but the *Pil. cochiae* must be omitted, because it is unsafe, as well as useless, to weaken the patient more by purging, and by this means promote the doubling of the fits, when he has been already debilitated thereby. In extreme weakness from this cause I prescribe the following electuary:

Take of the conserve of flowers of borage and bugloss, each an ounce; conserve of rosemary, half an ounce; candied citron-peel, and nutmeg, and Venice treacle, of each three drams; confection of alkermes, two drams; mix them up into an electuary; of which let him take the quantity of an hazel nut, morning and night; drinking after it six spoonfuls of the following julep:

Take of the distilled water of meadow sweet, and treacle water, of each three ounces; syrup of cloves, an ounce; mix them together.

Instead of the julep, I sometimes give some simple plague water, sweetened with sugar; at the same time forbidding the use of glysters, and allowing chicken broth, water gruel, &c. by way of diet.

33. With respect to quartans, whoever is but slenderly skilled in physic, cannot, I conceive, be ignorant how unsuccessful all the usual methods of cure, hitherto directed, have proved, unless by means of the bark, which yet more frequently checks, than cures the disease. For after it has lain dormant for two or three weeks, and the patient has had a short respite from its violence, it returns afresh as severely as before, and cannot generally be conquered in a short time, notwithstanding the bark be frequently repeated. This, however, shall not hinder me from communicating what I have experienced in relation to the method of giving it.

34. 1. The greatest caution must be had not to give it too early, namely, before the disease be in some measure spontaneously abated, unless the extreme weakness of the patient requires it to be given sooner; * for the giving it too soon may render it inef-

* The bark may be given without waiting for the spontaneous abatement of the disease, provided the fever be reduced by artificial means to that grade in which the bark is safe and effectual.

fectual, and even fatal, if a sudden stop be thus put to the vigorous fermentation raised in the blood in order to its despumation.

2. We must not order purging, much less bleeding, in order to carry off a part of the febrile matter, and render the bark more effectual; for they both weaken the tone of the parts, whence the disease returns so much the more speedily and certainly, after the virtue of the bark is spent. It were better in my opinion to impregnate the blood with this medicine by degrees, and at distant intervals from the fit, rather than endeavour to stop it at once, just upon its coming; for by this means the bark has more time to produce its full effect in, and, besides, the mischief is avoided that might happen by putting a sudden and unseasonable stoppage to the immediately approaching fit. 3. The bark must be repeated at short intervals, that the virtue of the former dose may not be entirely gone off before another be given; and by repeating it frequently, the disease will, at length, be perfectly cured.

35. These reasons led me to prefer the following method of giving the bark:

Take of the Peruvian bark, one ounce; syrup of roses, two ounces; make an electuary thereof; take the quantity of a large nutmeg every morning and night, on the intermediate or well days, till the whole be taken; and let it be repeated thrice, interposing a fortnight between each time.

36. The bark might perhaps prove as successful in vernal and autumnal tertians as it does in quartans: but, to speak ingenuously upon this occasion, in children and young persons, affected with either of these diseases, I think it best to forbear the use of medicines, and make no change as to air and diet; having hitherto found no inconveniency in leaving the cure wholly to nature, at which I have often been surprised, especially in infants; for the depuration of the blood being finished, these distempers go off spontaneously. But contrariwise, if 1. a slender diet be directed; or 2. purgatives be now and then given, as they generally are, under the pretext of opening obstructions, and discharging the humours lodged in the first passages; or 3. especially, if bleeding be used in an epidemic constitution, the disease will be considerably prolonged, and also accompanied with several dangerous symptoms.*

* Here we find our author's practice again influenced by his theory of "depuration of the blood," or of concoction. It is true children suffer less than adults from protracted intermittents, but it is always safest to attempt to save the constitution by means of remedies suited to the state of the system.

37. But in aged persons, affected either with autumnal tertians or quartans, there is danger of these diseases becoming not only obstinate, but mortal; for which reason, if the bark and every other method prove ineffectual to a cure, nature must at least be supplied with such helps, as may enable her to finish her work. For doubtless, in weak bodies, unless the fermentation be kept up by cordials, a strengthening diet, wormwood wine, and the like, the patient will be debilitated by irregular and ineffectual fits, and the disease continue, till a violent fit comes, which, by reason of his extreme weakness, may destroy him in the cold fit. And this frequently happens in aged persons, who have been weakened by a long course of purgatives; whereas they might have been supported, at least for a short space, by some sufficiently strong cordial.

38. When the time required for the despumption of the blood is finished, or even earlier, persons in years should remove to a very different air, or which is better, to a warmer climate, or at least leave the place where they were first seized with this disease. It is very surprising how much a change of air conduces to a perfect cure at this juncture, but before it is not only needless but improper. For though a person were to go to a warm southern climate, the blood, notwithstanding, being once reduced to this morbid state, must necessarily finish its depuration, which would vainly be expected from breathing a new and unusual air, till the motion thereof be mended, and so far perfected, as to be capable of recovering a healthful state. Such a remarkable change of air, therefore, is to be deferred till the distemper can be removed; so that in a quartan, for instance, which arose in autumn, it should be deferred till the beginning of February.

39. But if the patient does not care to change the air, or cannot conveniently, he ought at this juncture to make use of a medicine of sufficient strength at once to promote, and, if possible, to finish the languishing fermentation; for which purpose I would advise the following:

Take of the electuary of the egg, or Venice treacle, one dram and a half; aqua coelestis, or common aqua vitæ, two ounces; make a mixture, to be given two hours before the fit.

I have used this medicine with success at the declension of the disease; but I acknowledge, that if such heating medicines be given sooner, they either double the fit, or change the disease to a continued fever; which has also been observed by Galen. They may be given with caution to young persons in this disease, but are unsafe in children.

40. Before I quit this subject, I must observe that what has been said concerning the continuance of autumnal intermittents, and the time required for the despumption of the blood, is to be understood of that alone which nature usually finishes by means only of the common medicines in use. For in treating of these matters my intent is not to discourage able and diligent physicians from searching after better methods of cure, and more effectual remedies in these diseases; so far otherwise, that I do not despair myself of discovering, in time, such a method or remedy.

41. After the disease is cured, the patient must be carefully purged; for an almost inconceivable number of diseases proceed from want of purging after autumnal intermittents, and I am astonished this is so little noted and guarded against by physicians. For whenever either of these diseases affected persons in the decline of life, and purging was neglected, I could certainly foretel, that they would be seized with some dangerous disease afterwards, though they themselves had not the least suspicion of it, on account of their seemingly perfect recovery.*

42. But purging must by no means be used till the disease is quite cured, because, though the natural parts, or intestines, may seem to be cleansed hereby from the foul humours left there by the intermittent, yet fresh matter will soon be supplied by the return of the fever, occasioned by the violence of the cathartic, and the disturbance of the substance of the juices; whence the disease will become more obstinate. And daily experience shews that such as, in the declension of the disease, comply with that theory, which makes the cure consist wholly in removing obstructions, and evacuating the melancholy humour, suffer much by repeated purges; which, whatever be the nature of the humour discharged, exasperate the fever, and so render it much more inveterate than it would otherwise have been.

43. For this reason I never give a purge till both the perceptible fits are entirely gone off, and the alteration likewise (how slight soever it be) which is perceived on those days when the fit usually came, and even not till a month afterwards; and then I prescribe a common laxative potion, ordering it to be repeated

* Dangerous diseases follow the neglect of bleeding as well as purging in autumnal intermittents, where it has been indicated. The cases of consumption, obstructed viscera, and dropsy which fill our hospitals in November and the succeeding winter months, are often the consequence of neglected, or too small bleeding. To the remedies that have been mentioned, the editor shall only add, that when intermittents refuse to yield to the bark, and bleeding, blisters to the wrists, Arsenic in pills and in solution, and a gentle salivation have been found to be effectual.

once a week for two or three months ; and a quieting draught to be taken in the evening after the operation, to prevent the return of the fit, which might otherwise happen from the disturbance which even the mildest cathartics are apt to raise.

44. I direct purging at these considerable intervals, that a relapse may not be apprehended ; which indeed might easily be caused by the too frequent agitation of the blood and juices ; but when there is no further danger from this quarter, I prescribe the following apozem :

Take of Monk's rhubarb, two ounces ; the roots of asparagus, butcher's broom, parsley, and polypody of the oak, of each one ounce ; of the inner bark of ash, and of tamarisk, each half an ounce ; the leaves of agrimony, spleenwort, and maiden hair, each one handful ; sena cleansed from its stalks, and moistened with three ounces of white wine, an ounce and half ; dodder of thyme, half an ounce ; troches of agarick, two drams ; fennel seeds, four scruples : boil them together in a sufficient quantity of water to a pint and half ; adding towards the end three ounces of the juice of Seville oranges : lastly, strain off the decoction, and mix therewith of the syrup of succory with rhubarb, and of the magisterial syrup for melancholy, of each one ounce and a half. Take half a pint of it every morning for three days running, and let it be repeated as there shall be occasion.

45. I proceed now to enumerate the symptoms which accompany intermittents in their decline ; and here it must be noted, that vernal ones have very few, compared with autumnal ; because they are neither so lasting, nor arise from such earthy and malignant juices.

46. The principal of these symptoms, which occasionally happens, is a dropsy ; wherein the legs first swell, and then the abdomen : it arises from a paucity of spirits, occasioned by frequent fermentations of the blood, in consequence of the length of the disease, especially in the aged ; so that being extremely impoverished, it can no longer assimilate the juices taken in with the aliment, a crude and indigested quantity whereof is, at length, thrown upon the legs ; and these being so distended as to admit no more, the remainder is discharged into the abdomen, and thus forms a true dropsy. But this disorder rarely happens in young persons, unless it has been imprudently occasioned by frequent purging during the course of the intermittent.

47. A recent dropsy from the above mentioned cause is easily cured by aperients and purgatives ; neither am I anxious about the consequences when it proceeds from this cause, for then I

conceive great hopes of success ; and, in reality, have recovered several by the use of the apozem above set down, 44. even without the mixture of any thing more appropriated to the dropsy. But I have observed, that it is to no purpose to endeavour to cure it by purging whilst the intermittent lasts, which only renders that disease more obstinate without relieving the dropsy ; for which reason we must wait till the intermittent is conquered, and then the cure of the dropsy may be successfully undertaken.

48. But if the distemper be so urgent as not to admit of this delay, the cure must be attempted by infusions of horse-radish root, the tops of wormwood, and the lesser centaury, juniper berries, broom ashes, &c. in wine ; which not only give relief by supplying the blood with fresh spirits, but likewise seasonably assist nature, now upon the point of overcoming the disease.

49. Children sometimes become hectic after both continued and intermittent autumnal fevers. The abdomen, in this case, swells and grows hard, a cough also and other consumptive symptoms frequently arise, which manifestly resemble the rickets : such patients must be treated in the following manner : According to the age of the child, give it a spoonful or two, more or less, of the purging potion above set down, every morning, for nine days, intermitting a day or two if need be ; and in the mean time the purgative must be so proportioned, either by increasing or diminishing the dose, as to give but five or six motions a day.* When the course of purging is over, let the abdomen be anointed with an opening linament for some days ; I generally use the following :

Take of oil of lilies and tamarisk, each two ounces ; the juice of briony roots and smallage, of each one ounce ; boil them together till the aqueous moisture is exhaled ; then add thereto of the ointment of marshmallows, and fresh butter, of each an ounce ; of gum ammoniac, dissolved in a proper quantity of vinegar, half an ounce ; of yellow wax, enough to make the whole into a linament.

By this method I have cured several children of the true rickets. But the caution, before inculcated, concerning purging, must also be observed here.

50. It is worth observing, that when children have been long afflicted with autumnal intermittents, there is no hopes of van-

* An artificial diarrhœa thus induced is far more powerful than purges exhibited in the usual way once or twice a week, for the cure of many other diseases besides that mentioned by our author.

quishing the disease till the abdomen (especially that part of it near the spleen) swells and grows hard ; the distemper abating in the same degree, as this symptom manifests itself. Nor can we, perhaps, more certainly fortel that the intermittent will go off in a short time, than by carefully attending to the swelling of the abdomen, in children, and to that of the legs, which sometimes happens in grown persons.*

51. The swelling of the abdomen which happens in children after intermittents, in those years wherein the constitution of the air has a tendency to produce autumnal intermittents epidemically, appears to the touch, as if the viscera contained matter hardened to a schirrus ; whereas that which comes in other years yields to the touch, as if the hypochondria were only distended by wind. Hence it is worth notice, that the true rickets rarely happen, except in those years wherein autumnal intermittents prevail.

52. A pain and inflammation of the tonsils, after continued or intermittent fevers, attended first with a difficulty of deglutition, succeeded by a hoarseness, hollow eyes, and hippocratic face, certainly foreshew imminent death, without any hopes of recovery. And I have generally observed, that profuse evacuations in patients almost worn out by the violence of the disease, together with the long continuance thereof, have conspired to produce these fatal symptoms.

53. There are several other symptoms, which usually follow these diseases, from a total neglect of purging, or an improper use of it ; but I shall not mention them here, as they all require nearly the same method of cure, viz. the purging off the sediment deposited by the preceding effervescence, which, by its continuance in the body, has given rise to these bad symptoms. It may, however, be proper here to take notice of a considerable symptom, which neither yields to purging, nor any other evacuation, and especially not to bleeding, but is rendered more violent thereby. This is a peculiar kind of madness, which sometimes follows upon inveterate intermittents, especially quartans ; and yields not to the ordinary method of cure, but after copious evacuations, degenerates into a lamentable kind of folly for life.

54. I have often been surprised to find no mention made of this disorder by practical writers, as I have frequently met with it ; and whereas the other kinds of madness usually yield to

* This remark accords with common experience. The fever in these cases is absorbed as it were from the blood vessels, and fixed in parts whose actions are less essential to life.

plentiful bleeding and purging, this will bear neither ; for when the patient is almost recovered, if a glyster only of milk and sugar be given, it immediately returns ; and if repeated bleeding and purging be used, these evacuations may indeed abate the violence of the disease, but will certainly render the patient an idiot, and quite incurable. Nor will this seem strange, if it be considered that the other kinds of madness proceed from the too great spirituousness and richness of the blood, whereas this arises from its depressed state and vapidity, as I may term it, occasioned by the long fermentation carried on by the fever, whence the spirits become utterly unable to perform the animal functions.*

55. I treat this disorder in the following manner : I give a large dose of some strong cordial three times a day ; for instance, VENICE treacle, the electuary of the Egg, the Countess of KENT's powder, Sir WALTER RALEIGH's powder, or the like, dissolved in plague or treacle water, or any other cordial water. Cordials may also be given in other forms. During the course of the cure, a slender but restorative diet, and generous liquors must likewise be used ; and the patient should keep his room, and lie much in bed. This regimen may occasion a costiveness, whence a fever may be apprehended, especially from the use of these heating medicines : but there is in reality no danger of it, because the spirits are so far wasted by the preceding disease, as not to be able to raise a new fever. In a few weeks the disorder will abate by degrees, and then the cordials may be omitted for a few days ; but the restorative method of living must be continued, and the cordials repeated, after a short interval, and persisted in till the perfect recovery of the patient.

56. This method has sometimes cured a madness that did not succeed intermittents, particularly in cold and weak constitutions. I was called last year to Salisbury, to consult with my friend Dr. Thomas for a lady, who was greatly disordered in her senses, and she was recovered by it, though she was then in her pregnancy.

57. But the common kind of madness, wherewith lively persons are usually seized, without a preceding fever, is of another kind, and must therefore be treated in a very different manner, with respect to evacuation ; though even in this kind also, such medicines should be given as strengthen the brain and animal spirits. I shall here subjoin the cure thereof, though it does not properly belong to this place, to prevent any persons being deceived by the similitude of the diseases.

* Madness rarely occurs from protracted intermittents in the middle states.

58. In young persons of a sanguine constitution, let eight or nine ounces of blood be taken away from the arm; and repeat the operation twice or thrice, at the distance of three days; after which, bleed once in the jugular: more frequent bleeding rather renders the patient an idiot than cures him.* Then give half a dram, or two scruples of pil. ex duobus, according as it operates, upon a set day, and repeat it only once a week, precisely upon the same day of the week, till the disorder goes off. By this method the humours, which, in this disease, usually fly up to the head, will gradually be diverted to the lower parts.

59. On the intermediate days, during the course of the cure, give the following electuary, or some other medicines of the like kind:

Take of the conserve of Roman wormwood, of rosemary, and of Venice treacle, each one ounce; of the conserve of orange peel, of candied angelica and nutmeg, each half an ounce; syrup of cloves, enough to make the whole into an electuary; of which let the quantity of a nutmeg be taken twice a day, drinking after each dose a small draught of canary, wherein cowslip flowers have been infused cold.

60. The continued fever and intermittents above described were almost the only prevailing epidemic diseases, during the constitution of the years 1661, 1662, 1663, and 1664. How many years they might have prevailed before I cannot say; but this I certainly know, that from 1664 to 1667 they rarely appeared at London.

61. I should treat likewise of the small pox of that constitution, since, as I before observed, they vary considerably, according to the different constitutions wherein they appear: but as I did not sufficiently attend to them at that time, I shall only mention this peculiarity of them, viz. that in those years they prevailed much in the beginning of May, but went off, upon the coming of the autumnal epidemics, namely, the continued and intermittent fevers. The tops of the eruptions had small pits for the most part, about the size of the head of a small pin, and in the distinct kind the eighth day was attended with most danger: at which time the sweat and moisture, which had hitherto continued, went off suddenly, and the external parts became dry, neither could the sweat be raised again by any kind of cordials; a delirium, great restlessness, pain and sickness, a frequency of making urine in small quantities succeeded, and the patient died in a few hours very unexpectedly.

* This has not been found to be the effect of copious bleeding for madness in the United States. Idiotism more frequently succeeds the neglect, or scanty use of it.

SECTION II.

CHAP. I.

THE EPIDEMIC CONSTITUTION OF THE YEARS 1665 AND 1666,
AT LONDON.

1. The preceding winter having been extremely cold, and accompanied with a continued frost till spring, which went off suddenly towards the end of March, that is, in the beginning of the year 1665, according to the English computation of time, there then arose peripneumonies, pleurisies, quinsies, and other inflammatory disorders, which quickly made great devastation; and with these there also appeared a continued epidemic fever, of a very different kind from those of the foregoing constitution, which usually seized scarce any body at that time of the year. For 1. the pain in the head here was more violent; 2. the vomitings more copious; 3. and the looseness, which was generally prevented in the former fevers by a vomit, was increased thereby in the present fever, and yet the vomiting continued; 4. the external parts were dry, as in the fevers of the preceding constitution: but after bleeding, especially, a sweat was easily procured, and being encouraged soon abated the symptoms; and this might be done at any time of the disease, whereas in those fevers it could not be safely attempted till the thirteenth or fourteenth day, and was not easily raised then; 5. the blood taken away in this fever often resembled that of persons in pleuritic and rheumatic disorders, but was less sizzly.*

2. These were the diagnostic signs of this disease at its rise; but towards the middle of the year the plague appeared, accompanied with several of its peculiar symptoms, as carbuncles, buboes, &c. and spreading more and more every day, came to its height about the autumnal equinox, at which time it destroyed near eight thousand persons in one week, though at least two thirds of the inhabitants had retired into the country to avoid the infection. Afterwards it began to abate, and was so far

* The higher grade of this fever than the common fevers of the same season, appears to be the effect of the same inflammatory constitution of the air which produced the plague that succeeded it. The yellow fever of Philadelphia, was in like manner preceded by fevers, with more inflammatory symptoms than in common seasons.

conquered by the winter's cold,* as to seize very few during that season, and the following spring, when it went off entirely ; whereas the fever prevailed, (though not so epidemically) all the subsequent year, and continued to the spring of the year 1667. I proceed now to treat of this fever and the plague.

CHAP. II.

OF THE PESTILENTIAL FEVER AND PLAGUE OF 1665 and 1666.

1. I have already cursorily observed, that some fevers are usually ranked amongst those of the malignant kind ; whereas the great violence of their symptoms, which seems to countenance this opinion, does not proceed from the contagious nature of the disease, but from unskilful treatment : for when we do not closely enough attend to the solution thereof appointed by nature, but inconsiderately pursue a different method, we greatly disorder the animal economy ; whence the disease, contrary to its nature, now different from what it used to be, is accompanied with several irregular symptoms. But a true malignant fever rarely happens, and totally differs from other kinds of fevers, that are so called from the irregularity of the symptoms, being indeed of the same species with the plague, only not so violent ; for which reason I will treat of the cause and cure of both in the same chapter.

2. That the air obtains a secret disposition or temperature, productive of different diseases at different times, is apparent to such as consider that the very same disease, in one season, proves epidemic, and destroys great numbers, and in another seizes but few persons, without proceeding further : as is manifest in the small pox, and more particularly in the plague, our present subject.

3. But of what nature the constitution of the air is, which gives rise to these diseases, I am as ignorant, as of several other things, about which philosophers cannot agree ; whatever it be, we ought at least to thank God that he permits the pestilential constitutions of the air, productive of that great destroyer the plague, to happen much more rarely than such as produce less

* The abatement of the plague during the cold weather, shows the sameness of its cause with the American yellow fever.

fatal distempers ; for the plague seldom rages violently in England, above once in thirty or forty years. A few persons in different places die of this disease for some years after a great plague, and it usually goes off by degrees ; because the pestilential constitution of the air continues still in part, and is not yet entirely changed to a more healthful state ; this therefore should be esteemed only as the gleanings of a preceding harvest. To the same cause it is owing, that the fevers which prevail for a year or two after a severe plague, are generally pestilential ; and though some have not the genuine signs of the plague, yet they are much of the same nature, and require the like treatment, as shall hereafter be shewn.*

4. But besides the constitution of the air, as a more general cause, there must be another previous circumstance to produce the plague, viz. the receiving the effluvia, or seminum, from an infected person, either immediately by contact, or mediately by pestilential matter conveyed from some other place. And when this happens in such a constitution as we have mentioned above, the whole air of that tract of land is quickly infected with the plague, by means of the breath of the diseased, and the steam or vapour arising from the dead bodies, so as to render the way of propagating this dreadful disease by infection entirely unnecessary : for though a person be most cautiously removed from the infected, yet the air received in by breathing will of itself be sufficient to infect him, provided his juices be disposed to receive the infection.†

5. Though this distemper, when it is only sporadic, seizes some few persons without any regard to the season, the infection being, as it were, communicated from one to another,‡ yet,

* Sporadic cases of yellow fever have appeared for several years in Philadelphia after it has been epidemic, and the fevers from other causes which have followed it, have been more inflammatory than in former years.

† In this section our author clearly intimates an opinion, that the plague is both a contagious, and an atmospherical disease. There can be no doubt of the impurity of the air being increased by the breath of persons who have inhaled the miasmata that induce the plague. This was obvious in the yellow fever. Persons who left the city of Philadelphia in the year 1793, during the prevalence of that fever, created sickness, and even puking in several persons who inhaled their breath. This fact has been adduced to prove that the yellow fever was contagious, but it operates against that opinion, for in no instance did an attack of the fever succeed the sickness and puking that have been mentioned.

‡ Mr. John Woodal, surgeon general to the East India company, who was in London at the time of the plague in 1625, gives the fol-

when an epidemic constitution of the air likewise prevails, it arises in the intermediate season between spring and summer; this season being the fittest to produce a disease, the essence of which chiefly consists in an inflammatory state of the juices, as we shall afterwards shew.—Again, this disease has its times of increase and declension, like other kinds of natural things: it begins at the time above set down, as the year advances it spreads, and as that declines it abates, till at length, winter introduces a state of the air contrary to it.

6. For if the changes of the season were to have no effect on this disease, the true pestilential seminum, unconquerable by any alteration of the air, would be conveyed from one person to another in a continued succession; so that when once it had got into a populous city, it would rage more and more, and never cease till it had destroyed all the inhabitants; but that the contrary frequently happens, appears from the number of the dead, which rose to some thousands in one week in August, but decreased very much, and was inconsiderable towards the end of November. I must own, however, what some authors have likewise asserted, that the plague appears at other seasons of the year; but this seldom happens, and it is not then very violent.

7. Mean time I much doubt if the disposition of the air, though it be pestilential, is of itself able to produce the plague; but the plague being always in some place or other, it is conveyed by pestilential particles, or the coming of an infected person from some place where it rages into an uninfected one, and is not epidemic there, unless the constitution of the air fa-

lowing more correct and rational account of the origin of that disease, and of the manner in which it is propagated. After mentioning it as a punishment inflicted on mankind for their sins, he adds, 'The terrestrial causes thereof are by consent of most writers as followeth, venomous and stinking vapours arising from fens, standing ponds, or pools, ditches, lakes, dunghills, channels, vaults, or the like, as also unclean slaughter houses of beasts, dead carcasses of men as in time of war, and of stinking fish, fowl, or, of any thing that contained life, and is putrid; as also more particularly in great cities, as in London, the unclean keeping of houses, lanes, alleys and streets; from these recited, and the like infected venomous vapours by the warmth of the sun exhaled, are apt and able to infect the living bodies of men, and thereby to produce the plague, which, once produced, is too apt by infection to spread itself and become popular, as experience sheweth.' To which he adds, 'a scarcity or want of food,' and the use 'of what is unwholesome.' Monroë's observations on the means of preserving the health of soldiers, vol. i. p. 223.

yours it. Otherwise I cannot conceive how it should happen that, when the plague rages violently in one town in the same climate, a neighbouring one should totally escape it, by strictly forbidding all intercourse with the infected place : an instance of which we had some few years ago, when the plague raged with extreme violence in most parts of Italy, and yet the Grand Duke by his vigilance and prudence entirely prevented its penetrating the borders of Tuscany.

8. The plague usually begins with chilness and shivering, like the fit of an intermittent ; soon after, a violent vomiting, a painful oppression at the breast, and a burning fever, accompanied with its common symptoms succeed, and continue till the disease proves mortal, or the kindly eruption of a bubo, or parotis, discharges the morbid matter, and cures the patient. Sometimes the disease, though rarely, is not preceded by any perceptible fever, and proves suddenly mortal ; the purple spots, which denote immediate death, coming out, even whilst the persons are abroad about their business. But it is worth observing, that this hardly ever happens but in the beginning of a very fatal plague, and never in its decline, or in those years wherein it is not epidemic. Again, sometimes swellings appear, without having been preceded either by a fever, or any other considerable symptom ; but I conceive that some slight and obscure shivering always precedes the seizure : Now, such as are attacked in this favourable manner may safely follow their business, as if they were in health, and need not observe any particular way of living.

9. As to the essence of this disease, I do not undertake to define it with exactness ; and whoever should call upon me to shew what it is that constitutes any particular species of a disease, might perhaps seem as impertinent, to the thinking part of mankind, as I should appear, were I to ask him the same question about a horse, for instance, amongst animals, or botany, amongst plants. For nature produces whatever she causes to exist by fixed laws, and a method of operating known only to herself, and conceals the essence and constitutive differences of her productions in the greatest obscurity. Hence every species of diseases, as well of animals as vegetables, is endowed with certain peculiar and unequivocal properties, resulting from its essence. However, an inquiry into the manner of curing diseases may proceed very successfully, though we are ignorant of their causes, because the cure of most diseases is not effected by this kind of knowledge, but by a suitable and experienced method.

10. But to return to our subject : As the rise of all similar diseases is usually deduced by us, in our present ignorance of things, from some depravation of the first or second qualities, it is probable that the plague is a peculiar fever of its own kind,

arising from an inflammation of the more spirituous particles of the blood, which, by reason of their fineness and subtlety, seem most likely to receive it. When it is possessed of the highest degree of subtlety, it suddenly dissipates the natural heat, and destroys the patient, as is manifest in the beginning and height of an epidemic constitution. The bodies of such as perish thus suddenly by the violence of this disease, are totally covered with purple spots, the fibres of the blood being broken, and its texture wholly dissolved, by the violence of the intestine struggle.

11. Now this fatal catastrophe may be occasioned by the exceeding subtlety of the contagious matter, even without a febrile ebullition, or any other perceptible symptom; quite otherwise than when the morbid cause is not so subtle, and the instrument that endangers life more obtuse, which is often the case. To shew the difference by a familiar example: Let a needle, or any other sharp-pointed instrument, be forcibly thrust under a pillow, and instead of raising it up, as an obtuse instrument would do, it will go through it.

12. But sudden death rarely happens, and only, as before intimated, towards the beginning, or increase of the plague. For this disease generally begins, like other fevers, with chillness and shivering, which are soon succeeded by heat, and this continues till the inflamed parts of the blood are expelled by nature to the emunctories, and there suppurated in the manner of common phlegmons. But if the inflammation be less considerable, it usually generates such fevers as are commonly called pestilential, as it frequently happens at the end of a pestilential constitution, and perhaps even a year or two afterwards, till that species of fevers becomes extinct.

13. In my opinion, the inflammation which the Latins call *ignis sacer*, and we St. Anthony's fire, or an erysipelas, is a good deal like the plague. For skilful physicians esteem it a continued fever, arising from the corruption and inflammation of the thinner parts of the blood, which nature, to get clear of, throws out upon some external part of the body, where a tumour, or rather (for frequently there is no very remarkable tumour) a large red spreading spot, usually called a rose, arises; but the fever is critically terminated in a day or two by this tumour, or eruption, and is sometimes accompanied with a pain in the glands of the arm-pit, or groin, as in the plague,*

* The unity of fever is clearly hinted at in this account of the sameness of the plague and the erysipelas. Dr. Chisholm says, the erysipelas preceded the yellow fever in one of the West India islands. The former was probably a modification of the latter. The progress of the season perhaps changed its character from an external to an internal disease.

14. Moreover, the erysipelas begins much in the same manner as the plague, viz. with a shivering, followed by a feverish heat; so that such as have never had this disease before judge it to be the plague, till it manifests itself at length in the leg, or some other part. To this may be added, that some authors suspect there is a kind of malignity joined with this disease, and accordingly place the cure of it in the use of sudorifics and alexipharmics. But the inflammation here, as soon as it has raised an ebullition, by means whereof the lightly parched particles of the blood are in a short time expelled, goes off spontaneously, and does no farther mischief.

15. But the plague is much more violent than an erysipelas; being, by its exceeding subtlety, fitted to pass through the innermost recesses of the body like lightning, and suddenly destroys the spirits, and sometimes dissolving the texture of the blood, before nature, oppressed by speedy progress of the disease, is able to raise a feverish ebullition, which is the common instrument she uses to expel whatever vitiates the blood.

16. If my opinion, of this distemper's arising from inflammation, be controverted, let it be considered that the presence of a fever, and also several other particulars, confirm it; as for instance 1. the colour of the blood taken away here, which plainly resembles that taken away in pleuritic and rheumatic disorders; 2. the dark livid colour of the carbuncles, not unlike the mark left by an actual cautery; 3. the buboes, which are equally disposed to inflammation, as other tumours of any kind, and terminate in abscesses, as most inflammations usually do; 4. the season of the year in which an epidemic plague commonly arises, seems likewise to strengthen my opinion; for at the same time, namely, betwixt Spring and Summer, pleurisies, quinsies, and other inflammatory diseases usually become epidemic; and I never knew them more common than they were for some weeks preceding the beginning of the late plague at London. Neither is it at all material, that the very same year that proved fatal to so many thousands, was otherwise very mild and healthy, and that such as escaped the plague never enjoyed better health; and likewise that those who recovered were not subject to a cachexy, and other indispositions, usually arising from the foul remains left by preceding distempers;* and farther, that imposthumes and carbuncles, though of the largest size, after the inflamed particles, together with the sanies, was discharged, were easily cured by the common chirurgical methods.

* The same things occurred in Philadelphia, during and after the yellow fever of 1793.

17. But here perhaps it may be asked, how it happens, if the plague be an inflammatory disease, that heating medicines, as most alexipharmics are, should be so successfully used, both for prevention and cure. To this I reply, that these medicines only relieve by accident, namely, by means of the sweat which they procure, whereby the inflamed particles of the blood are exhaled, and expelled; but if they fail of raising a sweat, as it frequently happens, the blood being more inflamed by this additional heat, soon manifests the bad effects of such kind of remedies. As to prevention, I am well aware how much the use of warm antidotes is generally commended, but with what advantage has not yet appeared. Too free an use of wine, and the taking of other strong preservatives every day, at set hours, have occasioned this disease in numbers of persons, who otherwise might probably have escaped it.*

18. As to the cure of these fevers, some perhaps will charge me with presumption and imprudence for undertaking to treat thereof, as having lived at some distance from the town, during the greatest part of the time that the late plague prevailed, and consequently being not sufficiently furnished with observations relating thereto. But since some physicians of greater abilities, who courageously staid in town at the peril of their lives, whilst the plague raged, have hitherto declined publishing what they have learnt of its nature from a large practice, it is hoped every good man will excuse me for communicating my sentiments of it, founded on a few of my own observations.

19. And first the indications of cure are to be considered; which must always be directed, either 1. to assist nature in expelling the disease, by keeping closely to her method of procedure herein; or 2. distrusting the method she usually takes to overcome the intestine enemy, to substitute a different and safer one from art. But here perhaps some may object that the plague may also be successfully enough treated by anti-pestilential alexipharmics, with forms of which the works of practical writers abound. But whether the assistance these kinds of medicines afford should not rather be ascribed to their apparent virtue of raising copious sweats, whereby they at the same time open a passage for the morbid matter to escape, than to any occult quality given them by nature to expel the pestilential poison, admits of great dispute.

20. Neither is there reason to doubt of these alone, but likewise whether the alexipharmics of other diseases do not relieve,

* The same effects accompanied or followed the use of the same supposed prophylactics in all the years in which the yellow fever has lately prevailed in Philadelphia.

by promoting some kind of evacuation, rather than by any inherent specific virtue. For instance, whoever (with respect to the venereal disease) asserts that mercury and sarsaparilla are true alexipharmics for the virus thereof, should produce some examples, where the former has sometimes effected a cure without raising a salivation or purging, and the latter without occasioning sweat; which I conceive it will be difficult to find. But to me it seems probable that the peculiar remedy of the plague, and proper alexipharmic of its poison, lies yet concealed in the bosom of nature, and that this distemper can only be removed by mechanical methods.

21. To consider therefore the first intention above mentioned more at large, which tends to assist nature in expelling the morbid matter, agreeably to her own method of procedure; it must be observed that in the true plague, when nature of herself commits no error, nor is forced out of the way by violent measures, she finishes the cure by an abscess in the emunctories, whence the matter is discharged; but in a pestilential fever the cure is performed by an universal perspiration, through the whole surface of the body. Hence we may learn that the method of cure must be diversified, agreeable to the different procedure which nature points out in both diseases.* For if one was to endeavour to discharge the matter of the true plague by sweat, it would be opposing nature, because she attempts to do it by imposthumes: and, on the other hand, to endeavour to expel the matter of a pestilential fever otherwise than by sweat, is to pursue a method directly contrary to the procedure and disposition of nature.

22. We are yet unacquainted with a set of certain remedies, capable of promoting the natural expulsion of the morbid matter in the true plague, or, in other words, of forwarding the eruption of the imposthumes, unless it be supposed that a strengthening diet and cordials may promote this end: but, in reality, I should greatly apprehend that the inflammation, already too violent, might be farther increased thereby. And indeed experience has convinced me that sweats are ineffectual in this case: for though I must own that when a profuse sweat has been kept up for three or four hours, and afterwards suddenly stopped, a tumour appears, yet I conceive it is not at all owing to the sweat, because there are no signs of a swelling whilst the sweat flows most plentifully, and when this is gone off, the swelling may arise, as

* There is great truth in this remark. However excessive or deficient nature may be in her attempts to throw off febrile diseases, she rarely errs in pointing out the manner, or emunctory, in, or through which it ought to be discharged. The business of a physician is to follow her, but it should be with depleting or cordial medicines in his hand, in order to assist, restrain, or invigorate her.

it were, by accident, viz. in consequence of nature's being eased of a part of her load, whereby she was too much oppressed, by means of the sweat, and of the considerable heating of the body by cordials given to raise the sweat. But the uncertainty and danger of driving out the morbid matter by imposthumes caused by sweat, sufficiently appears from its having proved fatal to near a third part (to speak within compass) of such as underwent the treatment. Whereas, on the contrary, several persons, in whom the tumours appeared in the regular and natural way, even whilst they were about their business, and without the least apparent disorder of any natural, vital, or animal function, recovered in a short time ; unless such as happened unfortunately to fall into the hands of some unskillful practitioner, and by his advice, though in perfect health, endeavoured to sweat in bed ; from which time they began to grow worse, and at length, the disease increasing, afforded a melancholy proof of the perniciousness of the advice, by their death.

23. Moreover, that the termination, or critical solution of the plague by tumours or imposthumation, is both uncertain and dangerous, is manifest from a bubo, which sometimes rises kindly at first, and with an abatement of the symptoms, but afterwards suddenly disappears, and instead thereof purple spots succeed, which are certain signs of death ; and the cause of its striking in should justly seem to be ascribed to the copious sweats, intended to promote its eruption, which wasted a considerable part of the matter through the pores, that should have served to fill and keep it up.

24. However it be, this at least evidently appears, that Providence has graciously pointed out a certain method of expelling the morbid cause in other diseases ; but, for this scourge of our transgressions, has given us only a very uncertain one : and perhaps the cause of the great destructiveness of this disease may be as well ascribed to this source, as to its malignity ; for in the gout and other diseases, where there is little suspicion of malignity, the striking in of the morbid matter proves as certainly pernicious. Hence it clearly follows, that the physician, who in the cure of other diseases ought to tread closely in nature's steps, must here renounce her guidance ; and for want of strictly attending to the truth of this maxim, the plague has proved much more destructive, than it would otherwise have been.

25. Since then it appears quite unsafe to follow nature in her method of curing this disease, we are in the next place to consi-

* Our author, so tenacious in some diseases, of the healing powers of nature, renounces her altogether in the plague. It is equally proper to do so in all diseases which are elevated *above*, or reduced *below* the level of her operations, except in the way mentioned in the preceding note.

der in what manner the second intention is to be answered, which consists in attempting the cure by a different one : and this I conceive is only to be effected by bleeding or sweating. As to the former, I am well aware that it is generally condemned in this disease ; but setting aside vulgar prejudices, I shall here briefly and equitably examine the reasons usually brought against it.

26. And, first, I appeal to the physicians who continued in town during the late plague, whether free and repeated bleeding, before a swelling appeared, was ever observed to prove fatal to any of the infected ? But it is not at all surprising that bleeding in a small quantity, or after the appearance of a swelling, should always be prejudicial : for in the former case, the management of the cure is taken out of the hands of nature, who used all her endeavours to raise a tumour, without substituting in its stead any other sufficiently effectual method to expel the morbid matter ; and, in the latter, bleeding, by attracting from the circumference to the centre, occasions a directly opposite motion to that of nature, which is made from the centre to the circumference. And yet nothing is more frequently urged as a capital argument, by those who condemn bleeding in general in this disease, than the mischief of bleeding in this improper manner ; as may be collected from Diemerbroeck, and other writers of observations. But for my own part I cannot assent to their reasonings, till I know what answer they will make to the question above proposed.

27. It is certain that several writers of great character have judged bleeding proper in the plague ; the principal of which are Ludovicus Morcatus, Joannes Costæus, Nicolaus Massa, Ludovicus Septalius, Trincavellius, Forestus, Mercurialis, Altomarus, Paschalius, Andernachus, Pereda, Zacutus, Lusitanus, Fonseca, &c. But Leonardus Bottallus, a celebrated physician of the last century, is the only one I know of who places the whole of the cure in as copious bleeding as we demand. I shall transcribe his words, that I may not be judged singular in this practice.

28. " In short (says our author) I conceive there is no plague wherein bleeding may not prove more beneficial than all other remedies, provided it be seasonably used in due quantity ; but I am of opinion it sometimes does no service, either, because persons have recourse to it too late, or use it too sparingly, or commit some error in both these particulars." And a little farther he subjoins, " But if our fears be so great, and we take away so small a quantity of blood, how is it possible to judge exactly what good or mischief bleeding may do in the plague ? For if a disease (which requires four pounds of blood to be taken away, in order to its cure, and yet but one is taken away) destroys the patient, it does not therefore prove destructive because bleeding was used, but because it was performed in an impro-

“per, and, perhaps, in an unseasonable manner : but ill-designing
 “and indolent men always endeavour to lay the fault on that,
 “not because it did really do mischief, but because they vilely
 “desire to give every body an ill opinion of it. Or, supposing
 “they do not do it out of wickedness, they cannot be excused
 “from ignorance and perverseness, both which are doubtless
 “pernicious, but the former much more so.” Then proceeding
 to confirm his reasonings from experience, he goes on thus:
 “These particulars being attended to, no sensible person can
 “justly censure bleeding in these diseases, but must rather
 “highly esteem and commend it as a divine remedy, and prac-
 “tise it with assurance ; which indeed I have done for these fif-
 “teen years past. For I found no speedier and safer remedy
 “in pestilential diseases, than copious and seasonable bleedings
 “in all my patients, which were exceeding numerous, both at
 “the siege of Rochelle, and four years ago at Mons, in Hainault,
 “at Paris for these two years past, and last year at Cambray.”
 To these remarks the author adds some instances of persons
 cured by this method, which I here omit for brevity sake ; but
 must beg leave to relate a very uncommon case, no way foreign
 to our present subject, which happened a few years since in
 England.

29. Amongst the other calamities of the civil war that severely afflicted this nation, the plague also raged in several places, and was brought by accident from another place to Dunstar castle in Somersetshire, where some of the soldiers dying suddenly with an eruption of spots, it likewise seized several others. It happened at that time that a surgeon, who had travelled much in foreign parts, was in the service there, and applied to the governor for leave to assist his fellow soldiers who were afflicted with this dreadful disease in the best manner he was able ; which being granted, he took away so large a quantity of blood from every one at the beginning of the disease, and before any swelling was perceived, that they were ready to faint and drop down ; for he bled them all standing, and in the open air, and had no vessels to measure the blood, which falling on the ground, the quantity each person lost could not of course be known.* The operation being over, he ordered them to lie in their tents ; and

* The quickest effect is produced from bleeding in a standing posture of the body. The loss of twelve ounces of blood will induce fainting in this posture, sooner than three times that quantity when a patient lies in bed. It should be resorted to when we wish to produce a sudden and general change in the actions of the system, also when we wish to facilitate the reduction of a bone by relaxing the muscles.

though he gave no kind of remedy after bleeding, yet, of the numbers that were thus treated not a single person died; which is surprising. I had this relation from Colonel Francis Windham, a gentleman of great honour and veracity, and at that time governor of the castle.—I shall set down what I have met with worth notice, with respect to this subject, when I come to deliver the few observations I was enabled to make whilst the late London plague prevailed.

30. But though I greatly approve of this method, and have formerly experienced its usefulness in many instances, yet, for several reasons, I prefer the dissipation of the pestilential ferment by sweat, to its evacuation by bleeding; because sweating does not weaken the patient so much, nor hazard the reputation of the physician. But this, however, has its inconveniences too: for, 1. in many, and especially in young persons of a hot constitution, a sweat is not easily raised, and the more you endeavour to raise one in such subjects, by heaping on clothes, and giving powerful sudorifics, so much the greater danger there is of causing a delirium, or, which is still worse, after having been deluded awhile with vain expectations, pestilential spots are at length forced out instead of sweat.

31. 2. As the chief malignity of this disease lies in the most spirituous parts of the blood, whence the motion of its grosser particles is generally somewhat more languid than in other inflammations, this finer part acquires a much more violent motion by this additional heat, and at length entirely breaks down all the fibres of the blood, now preternaturally distended. And from this dissolution of the sanguineous fibres I judge the origin of the pestilential spots or eruptions should be derived; because, like the marks left by violent stripes on some fleshy part of the body, they are at first of a deep red, but soon after turn blue or black.

32. 3. Again, in such as are pretty apt to sweat, if the sweat be stopt too early, viz. before the morbid matter be totally expelled, the buboes, which began to rise kindly at the decline of the sweat, by thus wasting a part of the matter intended to fill them, either readily strike in, or at least never become true abscesses (as it usually happens in the small pox, when the patient has sweat copiously in the beginning) and the matter thereof being re-admitted into the blood, raises a violent motion therein, by which means the pestilential spots, which denote imminent death, are often driven out in the manner above described.

33. But, in order to shew more clearly how to prevent these and other inconveniences, I will faithfully set down all I have done and observed in this disease, beginning from the first appearance of the late plague.

34. At the beginning of May, in the year 1665, I attended a lady, about one and twenty, of a sanguine constitution, who,

besides the burning fever, which began a little earlier, had frequent vomitings, and other febrile symptoms. I began the cure with bleeding, and next day, to guard against a looseness, directed a vomit, which operated pretty well: for, as I have already observed, a looseness usually comes in the declension of a fever, for want of giving a vomit, when it was indicated by the retchings in the beginning. Visiting her next morning, I found she had a looseness, which perplexed me much, having rarely met with this symptom for some years before. Hence I judged that this was no common fever, as the event also shewed, and consequently required to be treated in a different manner from that above mentioned, which I had hitherto constantly used with success. Upon this, a senior physician being joined with me in consultation, bleeding was repeated by our joint advice, which the age, constitution of the patient, and the violent ebullition of the blood, seemed to demand; moderate cooling cordials were also given, and glysters injected every other day. At the decline of the disease, we directed some of the stronger alexipharmics, because there arose very uncommon and irregular symptoms, which are generally esteemed signs of considerable malignity; but all these means availed nothing, and the patient died about the fourteenth day.

35. The singular nature of this fever set my head at work for some days afterwards; and at length recollecting, 1. that the violent heat continued even after repeated bleeding; 2. that the patient's cheeks were red;* 3. that some drops of blood distilled from her nose a little before her death; 4. that her blood when cold resembled that taken away in a pleurisy; 5. that she had a cough, and dull pains in the vital parts, or breast; and 6. that it was that season of the year, which includes the end of spring and beginning of summer, and which is less disposed to produce continued fevers; all these dividing, as it were spontaneously, at this time, and either becoming intermittents, or suddenly turning to pleurisies, and the like inflammatory disorders; and lastly, 7. that pleurisies were very epidemic at the same time: having, I say, duly considered these particulars, I concluded that this fever, though it had not the pathognomonic or distinguished signs of a pleurisy or peripneumony, was symptomatic, and occasioned by an inflammation lurking near the vital parts, though it was unaccompanied with pain in the side, or great difficulty of breathing. In short, I came at length to this conclusion, that I ought to have followed the same method here that I

* Red cheeks, or the whole face suffused with blood, often afford an indication for blood-letting when we are unable to observe any other sign of the necessity for that remedy.

had frequently used in a pleurisy with good success. And, indeed, it afterwards fully answered my expectations ; for being called some little time after this to a man affected exactly in the same manner, I began and finished the cure by repeated bleeding, after the method already commended in the pleurisy.* And about the end of May, and beginning of June, this fever being then very epidemic, I recovered numbers by the same means. From this time forwards that dreadful plague began to rage with great violence, which afterwards made such devastation, that in the space of seven days it destroyed as many thousand persons in this city only.

46. Whether the fever under consideration deserves to be entitled a plague, I dare not positively affirm ; but this I know by experience, that all who were then seized with the true plague, attended with all its peculiar concomitants, and for sometime afterwards, in my neighbourhood, had the same train of symptoms both in the beginning and through the course of the disease. But when I was in danger from the near approach of the plague to the house wherein I lived, yielding at length to the solicitations of my friends, I accompanied the vast numbers that quitted the city, and removed my family some miles distant from it : but I returned to town so very soon afterwards, and whilst the plague yet raged so violently, that on account of the scarcity of abler physicians, I could not avoid being called to assist the infected. And not long after I attended several persons in fevers, which to my great surprise I found were of the same kind and nature as those I had so successfully treated before my departure : for which reason, trusting to my own experience for a better guide, and preferring it to all manner of trivial rules, I scrupled not to direct bleeding again.

37. I continued this practice of plentiful bleeding, along with the use of a ptisan and the like cooling diet, in numbers with wonderful success ; till at length it failed me in a few instances, through the obstinacy of the patient's friends, who were so unreasonably prejudiced against it, as not to let me take enough blood away, to the great detriment of the diseased, from whom, as the cure turned chiefly upon bleeding, either a sufficient quantity of blood, or none at all, should have been taken away. Finding my endeavours so warmly opposed, I judged that the discovering another method of curing this disease would be of eminent service for the future.

* We meet with another proof in this section of the author's *practical* belief in the unity of fever. He considers a fever and a pleurisy as different forms of the same disease, and cures them both by the same remedies.

38. I shall here relate an instance of the mischief I once innocently did, not by bleeding, but because I was hindered from taking away as much blood as I judged requisite.—I was called to a young man of a sanguine complexion, and robust constitution, who had been seized with a violent fever two days before, attended with vertiginous pains in the head, excessive vomiting, and other symptoms of the like kind; and finding upon inquiry that there was no sign of a swelling, I immediately directed a large quantity of blood to be taken away, the top whereof, when cold, resembled corrupt, pleuritic blood; and I also prescribed a ptisan, and cooling julaps and broths. In the afternoon bleeding was repeated in the same quantity, and again, in like manner, the next morning. Calling upon him in the evening I found him much better, nevertheless his friends mightily opposed farther bleeding, which yet I earnestly contended for, assuring them, that by bleeding him only once more he would be out of danger, but that if they continued to oppose it, bleeding had better have been wholly omitted, and the cure undertaken by sweat; adding, in short, that otherwise he would certainly die.* The event confirmed my prognostic; for whilst we were disputing about the operation, we lost the opportunity of doing it, for purple spots appeared next day, and the remains of the peccant matter, which ought to have been entirely carried off, (as bleeding so frequently repeated left no room to expect an abscess) corrupting the whole mass of blood, and destroying the texture thereof, by its extraordinary subtlety, the patient died in a few hours afterwards.

39. Having therefore frequently met with such perplexing obstacles, I solicitously bent my thoughts to discover, if possible, as effectual, and at the same time a less exceptionable method of curing this disease. And after frequent and long consideration of the matter I pitched upon the following, which has since proved always serviceable, and every way complete.

40. First, if a swelling has not yet appeared, I bleed moderately, according to the strength and constitution of the patient, after which a sweat is readily and expeditiously raised, which otherwise would not only be difficultly procured in some subjects, but there would also be danger of increasing the inflam-

* The author is correct in saying that this remedy had better be omitted altogether, than used too sparingly where it is much indicated, for by moderate bleeding we untie as it were the disease, and let it loose suddenly upon the system, without restraining it afterwards, whereas by omitting bleeding, we leave nature to her own gradual efforts to relieve herself, which now and then are more effectual than the limited operations of art.

mation thereby, and thus driving out the purple spots. And the immediately succeeding sweat makes abundant amends for the considerable mischief, which the loss of blood, though in a small quantity, would otherwise occasion. After bleeding, which I direct to be done in bed, so soon as all things are in readiness to raise a sweat, I immediately order the patient to be covered over with clothes, and a piece of flannel to be applied to his forehead, which last expedient contributes more towards raising a sweat, than one would easily imagine. Then, if the patient does not vomit, I administer these, or the like sudorifics:

Take of Venice treacle, half a dram; the electuary of the egg, a scruple; Gascoign's powder, twelve grains; cochineal, eight grains; saffron, four grains; and the juice of kermes, enough to make the whole into a bolus; to be taken every six hours, drinking after it six spoonfuls of the following julap.

Take of the distilled water of carduus benedictus, and compound scordium water, of each three ounces, treacle water, two ounces; syrup of cloves, an ounce: mix them together for a julap.

41. But if there be a vomiting, as it frequently happens in the plague and pestilential fevers, I forbear sudorifics, till, by the weight of the clothes, and throwing part of the sheet over the face now and then to collect the steams, the sweat begins to appear. For it is well worth observing, that as soon as the rays of the morbid matter get to the circumference of the body, the looseness and vomiting, occasioned by their being turned back on the internal parts, and lodging in the stomach and intestines, immediately cease spontaneously; so that how excessive a vomiting soever had preceded, the medicines afterwards taken are well retained, and succeed to our wish in exciting sweat.

42. I remember that being desired by an apothecary to visit his brother, who was dangerously ill of a pestilential fever, and mentioning the giving a sudorific, he said he had already given several strong ones without effect, the patient having thrown them up by vomit. To this I answered, that he might prepare one of the most nauseous of those that had been exhibited, and I would easily prevent his vomiting it up. The event verified my promise; for the patient having first sweated moderately, by the weight of the bed clothes only, kept down a large bolus of Venice treacle, which causing him to sweat plentifully, he recovered.

43. But to resume my subject: I direct the sweat to be con-

tinued for twenty-four hours, by giving draughts of sage posset drink, or mace ale, between times, strictly cautioning against wiping off the sweat, and not allowing the patient's linen to be changed, however moist or foul it be, till twenty-four hours after the sweat is gone off: and this I recommend to be observed with particular care. For if the sweat vanishes in less time, the symptoms immediately return with their former violence, and the health of the patient is greatly endangered, which a longer continuance of the sweat would have quite secured.

44. And, in reality, I wonder much at Diemerbroeck and others, when I consider upon how slight a pretext they are induced to stop the sweat, namely, to preserve the strength of the patient. For 1. that the patient is stronger whilst the sweat flows than before, must have been observed by every one that is but slenderly acquainted with the treatment of this disease. 2. I shall not scruple to publish and defend what practice and experience have taught me, with respect to this matter. Several, who by my advice were kept in a sweat for twenty-four hours, have been so far from complaining of greater weakness from thence, that they have declared, that in the same proportion the superfluous humour was thus carried off, they perceived their strength increase.* And towards the latter part of the time I have often observed with surprise, that there appeared a more natural, genuine, and copious sweat than the former occasioned by the sudorific, and which gave greater relief, as if it were truly critical, and terminated the disease. 3. Again, I do not see what inconvenience would attend refreshing the patient with restorative broths and liquids, when the sweat is at the height, and then the objection of want of strength to bear long sweats, vanishes. If, therefore, a faintness be perceived towards the end, I allow the patient to sup a little chicken broth, the yolk of an egg, or the like, which, together with the cordials and draughts, usually directed to keep up the sweat, sufficiently support the strength. But in a matter of fact so evident, it is needless to use many arguments; for what clearly shews the advantages of this method is, that whilst the patient continues to sweat, he judges himself in a fair way of recovery, and in the opinion of the attendants seems in no farther danger; but as soon as the sweat ceases, and the body begins to dry, he grows worse, a kind of relapse being thereby occasioned.

45. For twenty-four hours after the sweat is gone off, I ad-

* The same increase of strength has often been acknowledged after bleeding and the operation of a purge.

wise the patient to be cautious of catching cold, to let his linen dry on his body, take all his liquids warm, and also to continue the use of the sage posset drink. Next morning I give the common purge, made of an infusion of tamarinds, the leaves of sena, rhubarb, with manna and solutive syrup of roses dissolved in the strained liquor. And by this method I recovered several persons, who were seized with a pestilential fever the year after the plague, and did not lose a single patient after I began to use it.

46. But where a swelling has appeared, I have hitherto forbore bleeding, even in such as are not very apt to sweat, apprehending the sudden death of the patient might prevent the intended sweat, from a return of the morbid matter into emptied vessels. Yet bleeding might perhaps be used safely enough, provided a sweat were raised immediately afterwards, which being continued for the space above mentioned, may disperse and waste the whole mass of the humour by degrees, and with much less danger than would attend the waiting a long time for a kindly suppuration of the imposthume, which is very uncertain in so violent a disease.

47. To conclude ; wherever it shall appear to the reader that I am mistaken in point of theory, I ask his pardon ;—but with respect to practice, I declare that I have faithfully set down all particulars, and have no where proposed any thing which I have not thoroughly experienced : and, in truth, when I come to die, I trust I shall have the satisfaction of being inwardly assured, that I have not only endeavoured, with the utmost diligence and integrity, to recover the health of all those who have been my patients, of whatever rank or condition they were, none of whom have been otherwise treated by me, than I desire to be, if I should be seized with the same distempers ; but also that I have contributed to the utmost of my abilities, that the cure of diseases might, if possible, be prosecuted with greater certainty after my decease ; being of opinion, that any accession of this kind of knowledge, though it should teach nothing more pompous than the cure of the tooth-ach, or corns, is of much greater value than all the vain parade of refinements in theory, and a knowledge of trifles, which are perhaps of as little service to a physician in removing diseases, as skill in musick is to an architect in building.

48. In the last place, I shall subjoin a short note, lest, perhaps, my opinion of Nature be taken in a wrong sense, or at least not sufficiently understood. In the foregoing discourse I have frequently made use of the term Nature, and ascribed various effects to her, as if I would thereby represent some one self-existing being, but every where diffused throughout the machine

of the universe, which, being endowed with reason, governs and directs all bodies; such a one as some philosophers seem to have conceived the soul of the world to be: but as I neither affect novelty in my sentiments or expressions, I have made use of this ancient word in these pages, if I mistake not, in a qualified sense only, and as it is understood and applied by judicious persons; for by Nature I always mean "a certain assemblage of natural causes, which, though destitute of reason and contrivance, are directed in the wisest manner, whilst they perform their operations, and produce their effects:" Or, in other words, that Supreme Being, by whose power all things are created and preserved, disposes them all in such manner, by his infinite wisdom, that they proceed to their appointed functions with a certain regularity and order, performing nothing in vain, but only what is best and fittest for the whole frame of the universe, and their own peculiar nature; and so are moved like machines, not by any skill of their own, but by that of the artist.

SECTION III.

CHAP. I.

THE EPIDEMIC CONSTITUTION OF THE YEARS 1667, 1668, AND
PART OF 1669, AT LONDON.

1. IN the year 1667, at the approach of the vernal equinox, the small pox, which, during the immediately preceding pestilential constitution, appeared very rarely, or not at all, began to shew itself, and spreading more and more every day, became epidemic about autumn; after which, its violence being abated by degrees, upon the coming on of the winter, it decreased, but returned again the following spring, and prevailed, till it was checked, as before, by the subsequent winter. It afterwards increased a third time with the approaching spring, but did not then rage so severely, nor so generally, as it had done the two foregoing summers: and in August 1669, it totally disappeared, and was succeeded by an epidemic dysentery. The small pox was more general in town for the first two years of this constitution, than I ever remembered it to have been, either before or since; and nevertheless, as it was at that time the genuine and a kindly sort, it destroyed few in comparison of the multitudes that were seized with it.

2. At the same time the small pox first appeared, there arose a new kind of fever, not much unlike it, except in the irruption of the pustules, and the symptoms thereon depending; of which I shall treat particularly in the following pages. This fever, though it affected fewer persons by far than the small pox, did notwithstanding last as long; but in the winter, when that abated, this prevailed, and when the small pox returned again in the spring, the fever went off, so as thus to leave the small pox the predominant epidemic of this constitution; the fever notwithstanding never manifestly ceased during this space, till at length it totally disappeared, together with the small pox, in August 1669.

3. These two epidemic diseases were accompanied by a third, especially the last summer, wherein this constitution prevailed, viz. a looseness, the constitution of the air then inclining to the subsequent dysentery. But however this be, at least it appeared that this disease so nearly resembled the then reigning fever, that it should seem to be only the fever turned inwards, and fixed upon the bowels.

4. I shall treat of these three disorders separately, which may justly be called the sole epidemics of this constitution. I begin

with the small pox, of which I shall discourse more at large, because the kind that prevailed during this term of years seemed to me to be more particularly genuine and regular than any other, inasmuch as it exhibited the same phenomena, and was every where attended with the same train of symptoms in all that were seized with it; from which, therefore, as being the most perfect in its kind, a true history of this disease, and the method of cure are to be taken.

5. For it must be observed, that every particular constitution of years has not only a proper and peculiar fever belonging thereto, but also a peculiar kind of small pox, which resembles this species for this course of years, but a different one in the following years, though they may seem to resemble each other as to certain appearances which are common to all the kinds: so much does nature vary in the production of epidemic diseases.

6. But to resume the subject, I will first give the history of this kind of the small pox; which I therefore call the regular kind to distinguish it from the irregular kinds of the following years; and I will also subjoin the method of cure, which was attended with all desirable success.

CHAP. II.

OF THE REGULAR SMALL POX OF THE YEARS 1667, 1668, AND PART OF THE YEAR 1669.

1. THE small pox in those years it is epidemic, when it is also mild and regular, usually begins about the vernal equinox, as did that now under consideration; but in those years wherein it is not only epidemic, but likewise irregular, and of a more dangerous kind, it sometimes appears sooner, viz. in the month of January, seizing whole families and sparing none, of what age soever they be, unless such as have already had it, not even suffering those to escape who have been afflicted with the bastard kind, which are no way a-kin to this disease. There are two kinds of this small pox, as well as of that which happens in all years, the distinct and confluent, which, though they differ not essentially, as some phrase it, are yet easily distinguished by some remarkable symptoms peculiar to each kind.

2. 1. The distinct kind begins 1. with a chillness and shivering, immediately followed by 2. extreme heat, 3. violent pain in the head and back, 4. vomiting, 5. and in grown persons a great tendency to sweat; for I never observed such a disposition in

children, either before or after the eruption ;* 6. pain in the parts immediately below the scrobiculus cordis, if they be pressed with the hand ; 7. sleepiness and stupor, especially in children, and sometimes convulsions, which happening after detention is over, I always suspect the small pox to be just approaching, and the eruption appearing in a few hours afterwards generally verifies the prognostic : so that, for instance, if a child be seized with a convulsive fit over night, as it usually happens, the small pox comes out next morning ; and I have frequently observed, that the small pox immediately succeeding such fits throws out large eruptions, is of a mild and favourable kind, and seldom proves confluent. And these are almost all the symptoms that accompany this disease in the beginning, and generally precede the eruption of the pustules.—But it may be proper to observe here that where the blood is of a looser texture, and so easily admits of a change, it sometimes happens that the separation is performed by degrees without any considerable sickness, before the expulsion of the matter shews itself by the eruption of the pustules.

3. The distinct small pox comes out mostly on the fourth day inclusive, from the beginning of the illness, and sometimes a little later, but very seldom sooner ; at which time the symptoms are usually much abated, or even go quite off, so that the patient thinks himself pretty well ; but grown persons are so inclined to sweat, that it can hardly be prevented, however thinly they are covered ; and this disposition continues till the pustules begin to ripen, and then vanishes spontaneously. The eruption proceeds nearly in the following manner ; pale red pustules, as large as the head of a small pin, shew themselves here and there on the face first, or on the neck and breast, and afterwards on the whole body. During this stage of the disease, the throat is affected with a soreness that increases as the pustules rise, which growing every day fuller and plumper, inflame the skin and flesh of the neighbouring parts.

4. For about the eighth day from the beginning of the disease, which is a time I always take particular notice of here, the spaces between the pustules, that appeared before of a pale white, begin to grow red, and swell in proportion to the number of pustules, with a throbbing pain of those parts, which continually increasing, occasions the inflammation and swelling above mentioned, so that in the progress of the disease the eye-lids are so filled and

* Fevers rarely terminate favourably by sweats in children, and hence the reason why *more* depletion by bleeding, purging or puking is necessary, under equal circumstances, to remove their fevers than those of adults, in whom evacuation through the pores may be added to assist in reducing the pulse, or be employed as a substitute for other depleting remedies.

distended, as sometimes to make the patient blind, and this tumour looks like a shining inflated bladder drawn over them. The blindness comes on sooner, if a great number of pustules fix on the eyes at the beginning of the eruption; immediately after the face, the hands and fingers, swell in proportion to the number of eruptions. The pustules on the face, that till this day were smooth and red, now grow rough and whitish, which indeed is the first sign of a beginning suppuration, and they likewise gradually discharge a yellow matter, in colour resembling a honeycomb. The inflammation of the hands and face being in the mean time come to its height, causes the spaces between the eruptions to look of a pretty florid colour, not unlike a damask rose; and in reality, the more mild and genuine the small pox is, so much more the eruptions and their intermediate spaces approach this colour. As the pustules in the face appear rougher and yellower every day as they ripen, so, on the contrary, those of the hands and other parts appear smoother and not so white.

5. On the eleventh day the swelling and inflammation manifestly abate, and the eruptions both of the face and the rest of the body, being come to their maturity and just bigness, (which in these years equalled that of a large pea) dry and scale off; and in this kind of small pox they usually quite disappear on the fourteenth or fifteenth day: but the eruptions of the hands being generally more obstinate than those of the other parts, and yet fresh and white, remain a day or two after the rest, and those of the face and body scale off; but these burst, and so vanish. The pustules of the face are succeeded by a scurf, or branny scales, and these sometimes by pits or pock-marks; for when the pustules first fall off, the skin looks smooth, but these scales coming on and falling off alternately, do at length make those pits that frequently continue visible long after the recovery of the patient in this disease; though the distinct small pox very rarely leaves any marks behind it. It was chiefly that kind that raged the last six months of the year, that pitted, for those which preceded made no marks, unless it proved the confluent sort, as we shall hereafter remark. The patient was either quite costive, or had few stools throughout the whole course of the distemper. And let this suffice for the distinct small pox.

6. 2. That kind of the small pox which we call the confluent, is attended with the same symptoms in common as the distinct, only they are all more violent; the fever, anxiety, sickness, and vomiting, &c. being more severe, by which signs a skilful physician discovers it to be the confluent kind, even before the eruption: nevertheless, the patient is not so ready to sweat in this kind as in the other just described, where the great tendency thereto generally foreshews that the small pox, which will soon appear,

will not run together.* Moreover, a looseness sometimes precedes, and continues a day or two after the eruption ; which I have not hitherto met with in the distinct small pox.

7. This kind of small pox generally comes out on the third day, sometimes earlier, but scarce ever later, whereas the distinct appears on the fourth day inclusive from the beginning of the distemper, or later, but very rarely before, and the sooner the pustules come out before the fourth day, the more they run together. However, though to speak in general, the confluent kind scarce ever appears so late as the fourth day, yet sometimes the eruption may be deferred by some violent symptom to the fourth or fifth day ; e. gr. 1. sometimes a sharp pain in the loins, resembling a fit of the stone ; 2. sometimes in the side, like a pleurisy ; 3. sometimes in the limbs, as in the rheumatism ; or lastly, 4. in the stomach, attended with great sickness and vomiting. In these cases, which however are not common, I have observed the small pox to come out later than ordinary, as being retarded by the extreme violence of the symptoms above enumerated ; which, indeed, being more severe than usual, when they arise in the very beginning, manifestly indicate that the subsequent small pox will be of the confluent kind, and not void of danger.

8. I proceed next to remark, that though the symptoms accompanying this disease in the beginning, in the distinct kind, go off, as I said above, immediately after the eruption, it nevertheless happens much otherwise in the confluent kind ; the fever and other symptoms afflicting the patient for several days after the pustules appear.

9. Sometimes this sort comes out like an erysipelas, and sometimes like the measles ; from which they cannot be distinguished, at least as to the outward appearance, unless by a physician well acquainted with these diseases. But whoever carefully attends to the different time of the eruption in these diseases, and other circumstances, which, from the history of each, will be found to differ extremely, will readily distinguish them. As the distemper increases, the pustules, especially those of the face, do not rise so high as in the distinct kind ; but running together, appear at first like a red bladder, covering the whole face, and making it to swell sooner than in the distinct sort, and at last they appear like a thin white pellicule, closely adhering to the face, and rising little higher than the surface of the skin.

* The same remark applies to fevers. The less malignant (the sweating state of fever excepted) the more easily do sweats take place in them. A common intermittent is distinguished from a continual fever upon its first onset by being more frequently attended with a moist skin.

10. After the eighth day this pellicule grows every day gradually rougher, as appears by the touch, and inclines to a brown, and not to a yellow colour, as in the distinct kind. The roughness and colour of the skin daily increase, till at length the pellicule falls off in large scales; but when the disease has been very severe, it usually sticks to some parts of the face till after the twentieth day. The more violent the small pox proves, the nearer the eruptions, as they ripen, incline to a dark brown colour, and the longer they are in falling off, if left to themselves; whereas contrariwise, the less they run together, the yellower they grow, and the sooner they scale off. When this pellicule or scab, which covers the face, first falls off, it leaves no roughness behind, but is immediately succeeded by branny scales of a very corrosive nature, which not only make larger pits than the distinct kind generally do, but also much disfigure the face with unseemly scars: and in the confluent kind, if the disease has been very violent, the skin of the shoulders and back sometimes scales off, leaving these parts bare.

11. It must be observed, that this disease is not to be esteemed dangerous, because the body is full of pustules, but from the great number of them in the face; for if that be exceeding full, though they are but few, and those of the distinct kind every where else, yet the patient is equally endangered, as if all the limbs were extremely full: but on the contrary, though every part beside be very full, if there be but few in the face, the danger is less. What has been said of the number of the eruptions, may also be affirmed of the kind, for the face plainly shews whether it be mild or severe.

12. I have always observed in the confluent small pox, that the eruptions in the hands and feet were larger than those of the other parts, and were gradually less and less the nearer they approached the body. And these are the observations on the eruptions, which I thought proper to premise.

13. The confluent small pox is attended with two other symptoms not less considerable than the eruptions, the swelling, or any one of those above mentioned, viz. 1. a salivation or spitting in grown persons,* and 2. a looseness in children. The former is so constant an attendant on this disease in grown persons, that I never met but with one patient in this kind who was free from it; but the latter, namely the looseness, does not so certainly affect children. Whether provident nature has therefore substituted these evacuations, because in this small and flat

* Let not a salivation for the cure of fevers be called an artificial remedy. Nature often employs it, not only in the small pox, but in several other febrile diseases.

sort the morbid matter cannot be so entirely discharged as by the larger and higher eruptions in the distinct kind, is what I do not pretend to determine ; for I only write a history, and do not undertake to solve difficulties. This, however, I certainly know, that these symptoms not only generally accompany the confluent small pox, but that the evacuations made thereby is as necessary as either the eruptions, or the swelling of the face and hands.

14. The spitting sometimes begins as soon as the eruptions appear, and sometimes not till a day or two after. The matter is for some time thin, and easily and plentifully expectorated ; and, indeed, this salivation is not much unlike that raised by mercury, only the saliva here does not smell so disagreeably. But towards the eleventh day, the saliva, now become more viscid, is raised with great difficulty ; the patient is thirsty, coughs often whilst he drinks, and the liquor flies out at the nostrils ; and from this day the salivation generally stops, though sometimes, but very rarely, after it has ceased entirely for a day or two, it returns again. On the same day the swelling of the face and the spitting begin to abate, but then, instead of them, the hands commonly swell, or at least, ought to do so.*

15. A looseness does not seize children so soon as a salivation does grown persons ; but whenever it begins, unless it be stopped by art, it attends the distemper throughout.

16. In both kinds of the small pox the fever rages most from the beginning to the time of the eruption, after which it abates, and continues much more moderate till the suppuration begins, which being finished it goes off entirely.

17. I have always observed when the disease proved very violent, that the patient had a kind of fit towards evening, at which time, especially, the more dangerous symptoms arose, and raged most severely.

18. Having now given an accurate history of this kind of small pox, including its true and genuine symptoms, rise, and progress, as it naturally appears, I proceed next to treat of the irregular symptoms, which happen in this disease, when it is unskilfully treated.

19. It is to be noted therefore, that the irregular symptoms happening on the eighth day, in the distinct kind, and on the eleventh in the confluent (always calculating from the first beginning of the distemper) do most eminently concern the life or

* To aid the swelling of the hands it was a common practice formerly to bathe them in warm water, or to cover them with poultices of bread and milk, as soon as the salivation began to decline, and the swelling of the face to subside.

death of the patient, and ought therefore to be thoroughly considered ; it being apparent, that most of those who perish by either kind, die on the above-mentioned days in each.

20. For first in the distinct kind, if the patient sweats pretty freely, which, as we remarked above, usually happens in grown persons, he conceives all will go well, hoping the venom or malignity of the disease will by this means be expelled through the pores of the skin, and therefore thinks it right to promote the sweat by cordials and a hot regimen ; and he pursues this method the more willingly, both because he seemed to have been relieved thereby in the beginning, and likewise because it agrees better with the ill-grounded opinion of the attendants. But those particles being at length expelled by sweat, which should have served to raise the pustules and swell the face, on the eighth day, the face, which ought to swell and be inflamed in the intermediate spaces, contrariwise appears flaccid, and those spaces white, or pale, whilst the pustules look red, and continue elevated even after the death of the patient. And the sweat, which had flowed freely to this day, now ceases suddenly and spontaneously, and cannot be raised again even by the warmest cordials. Mean time the patient is seized with a delirium, great restlessness and sickness, a frequency of making urine in small quantities, and dies in a few hours, contrary to expectation. But it must here be observed, that if the eruptions be few, the disease happens in the winter, and in a person in years, or if bleeding has been used, this hot regimen, of which we have just treated, does not then so certainly hinder the swelling of the face, and is not so fatal, as where the eruptions are many, or the disease happens in the spring or summer season, and the patient is in the prime of life, and no blood has been taken away.

21. But in the confluent kind there is most danger, and the greatest number die on the eleventh day ; for as the spitting, which had hitherto preserved the patient, commonly ceases spontaneously about this time, unless the swelling of the face keeps up a little longer, and that of the hands, now manifestly beginning, supplies its place, death must needs ensue. For it must be considered, that in this kind of small pox, where the eruptions are so small, not only the salivation, but also the swelling of the face and hands, is absolutely requisite in order to a proper discharge of the morbid matter ; and if either be wanting, or goes off too soon, the patient must perish immediately. But it happens too frequently in this hot distemper, that the texture of the blood is so much weakened and broken, and so highly inflamed by an over-hot regimen, as to be no longer able to perform the expulsion of the inflammatory particles in a slow and gradual manner (not to mention how the mischiefs pro-

ceeding from forcing sweat improperly) whence either the face and hands do not swell at all, or the swelling vanishes with the salivation; for though the swelling of the face ought to abate a little on this day, yet it should not go off entirely till a day or two after, the swelling of the hands in the mean while continuing and increasing, which is one of the most certain signs of recovery, as the contrary is of imminent danger.

22. However this be, the saliva, which till this day continued crude and thin, and was easily expectorated, now becomes so viscid and tough as to endanger suffocation, and when the patient drinks, the liquor falls down the windpipe, whence it is thrown up through the nostrils with a violent cough. He is seized with a hoarseness, a great stupor and drowsiness, and being wholly oppressed by the violence of the disease, generally sinks under these symptoms on the above-mentioned day.

23. There are also other symptoms, which happen in any stage of the distemper, and which are equally common in the distinct and confluent kinds of small pox. For instance, a delirium sometimes seizes the patient, occasioned by the excessive ebullition of the blood, and the heat is so intolerable, that he endeavours in a furious manner to get loose from those that confine him in bed. Sometimes the same cause produces a very different or contrary effect, as it seems, namely, a kind of coma, so that the patient dozes almost always, unless he be constantly roused.

24. Sometimes also in this disease, as in the plague, the texture of the blood being loosened by the violence of the inflammation, purple spots appear in the spaces between the eruptions, which are generally forerunners of death. This happens oftener when the constitution of the air chiefly favours this epidemic disease. Sometimes small black spots, scarce so large as pins heads, and depressed in the middle, appear on the top of the eruption in different places; which, as they proceed from too much heat, do at length by the use of a cooler regimen acquire a brown, and afterwards by degrees a yellow colour, which naturally belongs to the genuine and regular small pox. This is apparent to those who are acquainted with this disease, in which all the symptoms become proportionably milder, the nearer the eruptions, when come to suppuration, resemble this colour, and vice versa.

25. Again, the blood of young persons, and such as are in the vigour of life, is sometimes so much inflamed in this disease, especially if too free an use of wine or any other spirituous liquor has preceded, as to break through the arteries into the bladder, and so occasion bloody urine, which is one of the most dangerous symptoms that appear throughout the course of this distemper.

26. Moreover, sometimes, but not so frequently, a spitting of blood proceeds from the same cause. But either of these hæmorrhages usually happen in the beginning, before the eruptions appear; or if they shew themselves in some places, yet in most others they lie concealed under the skin, in great abundance, and are of that kind which would prove most confluent, unless one of the above-mentioned symptoms should terminate the disease by destroying the patient.

27. Sometimes, also, especially in young persons, there happens a total suppression of urine, either at the height, or declension of the distinct kind.

28. There are likewise other symptoms that sometimes arise from a contrary cause to those above enumerated; namely, when the patient has been injured either 1. by too intense cold, 2. improper bleeding in a very large quantity, or 3. over-purging; whence the eruptions sometimes suddenly sink, and a looseness comes on, which, in grown persons, as we have before observed, proves highly dangerous, the variolous matter being thereby struck in, so that nature is utterly unable to expel it in a proper manner by the pores. Besides, by this means the swelling of the face and hands is checked, which is to be esteemed as favourable a symptom as even the eruptions of the pustules, unless they be very few indeed.

29. But the symptoms occasioned by taking cold are very rare in comparison of those that arise from the hot regimen; for as this disease may with great reason be reckoned amongst those of the most inflammatory kind, a mistake on this hand happens much more frequently than on the other.

30. What the essence of this disease is, I ingenuously own I know not, by reason of a natural defect in the understanding common to me and all mankind; but upon a thorough consideration of the above-mentioned symptoms, it should seem to be an inflammation of the blood and juices, yet of a different kind from other inflammations, in removing which, nature, during the first two or three days, endeavours to concoct and digest the inflamed particles, which being afterwards thrown out on the surface of the body, she further ripens, and at length, totally expels in the form of small abscesses. Hence, in order to lay some foundation for the method of cure, regard must be had to two different stages of this disease; the first whereof is that of the separation, and the second that of the expulsion.

31. 1. The separation is mostly accompanied with a febrile ebullition, and is ordinarily finished in three or four days, during which nature is employed in collecting the inflamed particles together that vitiate the blood, and expelling them to the fleshy parts, which being over, the former calm returns; the disturbance raised in the blood, whilst this was doing, being

now quieted. The separation being thus finished by means of the ebullition of the blood, 2. the expulsion succeeds next, which is performed, during the rest of the time the disease continues, by means of those small abscesses in the flesh. For as they differ not in their nature from other abscesses, so, like those, they usually run through the states of crudity, suppuration, and exsiccation, which, if they finish right, there is no danger, as the cure chiefly depends thereon; but if not, very sad symptoms will succeed. And, indeed, the expulsion requires so much longer time than the separation, because this is performed in a thin fluid body, and, as I may say, in the bosom of nature, whereas that is performed in a thick, dense substance, and at a greater distance from the fountain of life.

32. These particulars being premised, the indications that arise are; 1. that such an equable ebullition of the blood be maintained, that it may neither finish the separation too hastily, by rising too high, nor retard, or render it imperfect, by sinking too low; 2. that the abscesses, or eruptions be very carefully kept up, so that, running through their proper states, they may at length entirely discharge the matter they contain, and vanish.

33. 1. To treat therefore briefly of the first indication. Great caution is required, especially during the separation, that the ebullition may not rise too high, either by heaping too many clothes on the patient, overheating the air by keeping too large a fire in the room, or using heating medicines and cardiacs. And these must be particularly guarded against, if either the patient be in the prime of life, or his blood too much enriched by spirituous liquors, or it be the spring season, or, at least, only the beginning of summer. Otherwise the separation, which should be carried on slowly and gradually, for the better promoting an universal despumation, will by this means be hurried on too fast, and thus either there will not be a sufficient number of particles collected, or perhaps some particles may be brought to secretion, which nature would not otherwise have secreted, were it not that, being forced beyond her just limits, she is thus made to hurt herself. For when such particles are separated as are unfit for separation, the motion of others, that have a tendency thereto, is hindered by their mixing with these, and thus they are rendered less fit for expulsion.

34. To me, indeed, it seems agreeable to reason, that the more time nature employs in carrying on and finishing the separation, provided the ebullition does not quite flag, so much the more certainly and universally it is completed, upon which the success of the subsequent cure must needs principally depend, as a different event must manifestly ensue from the contrary method. For as over-early fruit does not come to perfection, so no

good arises from this hot regimen, but on the contrary it frequently happens that the patient either falls immediately into a delirium, or, which is a worse symptom, profuse sweats arise, whereby such particles are separated as are unfit for separation, and not agreeable to the nature of pus, (which however is the genuine product of this separation) or else, the eruptions, being driven out too much by cardiacs and hot regimen, run altogether (a shocking sight) and forebode death.

35. These and the like symptoms are ordinarily occasioned by such errors, whereas I never observed any harm done by the other method: for nature, being left to herself, finishes her work in her own time, separating and expelling the variolous matter, in the proper way and manner, so as not to stand in need of our help, at least not in the young and robust. Nor in reality have I ever observed or heard that any person perished because the small pox did not come out at first; but too many have died in whom they came out well and hopefully in the beginning, but afterwards struck in and sunk before they came to maturity.

36. But though it is improper and dangerous, by cardiacs or a hot regimen, to raise the ebullition, once begun, too high; so, contrariwise, the danger is equal in depressing it by bleeding, vomits, purgatives, glysters, and the like evacuations, the due secretion of the separable parts being in great measure prevented hereby. For though the common and trite objection to bleeding and other evacuations be of no force, namely, that it is improper to move the humours from the circumference to the centre, as nature seems to affect the contrary in this disease, because a quite different effect has often been observed to follow upon the use of these means, viz. a sudden eruption of the small pox; nevertheless there are other forcible reasons in readiness to dissuade from this practice, if by any means it can be refrained. For, to treat briefly of the principal of them; 1. by these evacuations, not only the ebullition is too much diminished, by means of which the parts intended for despumation should have been carefully separated; but 2. the matter also is wasted, which should continually serve as fuel to the secretion once begun, whence it frequently happens that the eruptions, which came out kindly in the beginning, and perhaps so much the better from the previous use of the above mentioned evacuations, sink soon after, as if they were suddenly struck in; occasioned chiefly by want of a fresh supply of matter to succeed the former, and finish the separation. But notwithstanding what has been advanced, if there be the least suspicion that the small pox, which are coming out, will be of the confluent kind, it will be highly serviceable not only to bleed immediately, but likewise

to give a vomit; for reasons we shall, in another place, set down at large.*

37. 2. To proceed now to the second indication, which respects the time of expulsion; during which the separated matter is expelled by means of small abscesses, or pustules. Here we are to endeavour to keep them up in a proper manner, so as they may duly and regularly reach the period assigned them.

38. As I conceive, therefore, it has been clearly shewn that it is highly dangerous to keep the patient too hot during the time of separation, when there is a fever, and the eruptions scarce yet appear; so likewise an error of this kind is equally dangerous at any time of the disease, and especially towards the beginning of the expulsion, whilst the pustules are yet in a state of crudity. For though the blood be considerably freed from the intestine tumult, by the separation being finished, and the translation of the matter to the fleshy parts, yet being still weak, and having scarcely acquired a new state and texture, it is easily affected by the immoderate heat arising from all parts, and so, upon the least occasion given, inflames, with a tendency to a new ebullition; which does not, like the former, endeavour to promote separation, for we suppose that business over; but, instead thereof, not only produces the dangerous symptoms before-mentioned, but disturbs the eruption begun, and proves detrimental, by putting the contents of the pustules into violent motion. And by these means either the particles already secreted, and deposited in the habit, being hurried away by the violent and rapid motion of the blood, are absorbed thereby; or the fleshy parts, being heated beyond the degree requisite for suppuration, do not finish it so completely; or lastly, perhaps, upon the coming of this new disorder, the texture of the blood, and the tone of the fleshy parts are so broken and weakened, that they cannot overcome the matter expelled, and digest it in the usual way of abscesses.

39. But mean while, we must not be so intent upon preventing an immoderate ebullition of the blood, as to check the eruption of the pustules, by exposing the patient to the injuries of the cold. The fittest degree of heat to promote their expulsion is the natural one, and such as is suitable to the temper of the fleshy parts; and whatever exceeds or falls short of it, is dangerous on either hand.

40. From what has been delivered, therefore, it seems manifest that this disease, and the proper method of curing it, rest on a slippery foundation; and for this reason I dare venture to

* I have often witnessed this salutary effect from an active vomit given during the eruptive fever of the natural small pox.

assert, that the reputation of the physician, who is frequently employed in it, will be exposed to censure ; for not only the vulgar are apt to attribute the cause of the patient's death to the over officiousness of the physician, but even the professors of the same art gladly take occasion from thence to defame their brother, and haranguing before partial judges, easily get him condemned, with this view, that they may gain greater esteem themselves, and build their rise upon the ruin of others ; which is a practice utterly unbecoming men of letters, and even the meanest artisans, and who have any regard for probity. Again, we may from hence observe, which is less surprising, that nurses, who are generally too busy and officious, often succeed ill in treating the disease : for it is a difficult matter, and exceeds the understanding and abilities of ignorant women, to ascertain the degree of heat requisite in this case, especially, since in order thereto, the season of the year, the age of the patient, his manner of living, and other like circumstances must be considered together, which in reality demand a prudent and skilful physician.

41. If the pustules happen to strike in, or the swelling of the face and hands sink, either from unseasonable bleeding, or taking cold, recourse must be had to cardiacs, but we must be careful of giving them too freely. For though blood has been taken away, it may notwithstanding happen, that apprehending the loss of strength from thence, and therefore giving either strong cordials, or using them frequently to prevent it, a new ebullition will be suddenly raised, the blood being yet weak, and easily affected by a hot stimulus ; whence frequent ebullitions are excited therein, to which the death of the patient is rather to be ascribed, than to the preceding bleeding. And let this suffice with respect to such particulars as may answer the primary intentions.

42. Now, to come closer to practice : as soon as the signs of the disease appear, I confine the patient within doors, forbid the use of wine and flesh-meats, and allow small beer moderately warm with a toast for common drink, and sometimes suffer it to be drank at pleasure. For his food I direct water-gruel, barley-gruel, roasted apples, and other kinds of aliment, that are neither remarkably heating, nor cooling, nor hard to digest. Nor do I much disapprove of the common country fare, of milk with roast apples bruised in it, provided it be given warm, and sparingly. I immediately forbid a hotter regimen, and the use of all kinds of cardiacs, whereby some injudiciously endeavour to force out the small pox before the fourth day, which is the natural and proper time for the eruption ; for I am very sure that the slower the pustules come out, the more general the separation of the variolous matter will be, the better they will ripen,

and the less danger there will be of their striking in ; whereas if they be driven out too soon, the matter, being yet crude and indigested, is precipitated, and deceives our expectation, like over-early fruit.

43. Again, by this over-hasty procedure, there is great danger (especially in hot and florid constitutions, whose active principles more than sufficiently supply the place of cardiacs) lest nature, being too much irritated and hurried, should overspread the body with the small pox, and so render that the confluent kind, which, without this precipitancy, would have been a favourable distinct one. The small pox must not therefore be expelled upon the first suspicion of this disease, because the patient is generally very sick and restless before the eruption ; for not a single instance can be produced of its having proved mortal, however ill the patient has been, either because the pustules did not come out directly, or because nature was deficient in expelling them sooner or later, unless where she was prevented by an hot regimen, and an over-early use of cardiacs. For I have more than once observed in the young and sanguine, that the use of a hot regimen, and cardiacs given with design to expel the pustules before the due time, have so little promoted their eruption, that, on the contrary, they have proved a check thereto. For the blood being heated by these means, and put into a more violent motion than is requisite for performing the separation in a proper manner, only some certain signs of the disease discover themselves ; the eruptions in the mean time lying concealed under the skin, and not rising higher, whatever cordials be administered to promote their elevation ; till, at length, the blood being reduced to its moderate and proper temperature, by allowing the use of small beer, and taking away part of the clothes, whereby the patient was considerably heated, I have commodiously made way for the eruption of the pustules, and by these means removed the danger.

44. And, in my opinion, they have as little reason on their side, who so obstinately confine the patient in bed, provided he keeps his room, as those who give cordials in so hasty and improper a manner : for bloody urine, purple spots, and other mortal symptoms above specified, happen only from a too early confinement in bed, especially in young persons. But on the fourth day I order the patient to be put to bed, at which time, if the eruption does not come kindly forward, it is proper to give some gentle cardiac, at least once, to drive out the pustules. Amongst the medicines that produce this effect, those called pargorics, or opiates, such as liquid laudanum, diascordium, &c. given in a small quantity, mixed with some proper cordial water, are the best for this purpose ; for as they abate the ebullition of the blood, nature expels the morbid matter with greater

ease and convenience. But I would not advise the giving a cardiac before this juncture, even though there be a looseness, and that should seem to indicate such a remedy. For though, as we observed above, a looseness may sometimes precede the eruption of the confluent small pox, occasioned by inflammatory effluvia, or humours discharged into the intestines from the mass of blood, which during the first days of the illness is greatly heated, and in violent motion; yet nature will as certainly expel these effluvia of the variolous matter by the skin, whereupon the looseness goes off spontaneously, as she commonly does the same effluvia, which, being turned inward upon the stomach, occasion a vomiting in the beginning of the disease.

45. But it is to be observed, that if I am called to a strong young man, who, besides, has given occasion to the distemper by too free an use of wine, or any other spirituous liquors, I esteem it not enough to check the ebullition of the blood, for him to keep from bed, and refrain cordials, unless bleeding in the arm be also used: but if this be opposed, on account of the prevailing prejudice of the vulgar, at least I judge it incumbent on me to propose it. For by the inflammation of the blood, caused by the heat of the spirituous liquors, together with the intense heat that naturally accompanies this disease, the motion thereof is rendered so violent, that it frequently bursts through the vessels into the bladder, or occasions purple spots, and other like symptoms, which perplex the physician in the course of the distemper, and destroy the patient.—And let these rules suffice with respect to what is to be done before the eruption.

46. As soon as the pustules appear, I examine carefully whether they are of the distinct or confluent kind; as they differ extremely from each other, though both have some symptoms in common. If therefore, from the largeness, paucity, and slow eruption of the pustules, the ceasing of the sickness, and other violent symptoms, which in the confluent species continue after the eruption, they appear to be of the distinct kind, I order the patient to be refreshed with small beer, water gruel, barley water, &c. in the manner above directed. And if it be summer, the weather exceeding hot, and the pustules few, I see no reason why the patient should be kept stifled in bed; but rather that he may rise and sit up a few hours every day, provided the injuries arising from the extremes of heat or cold be prevented, both with respect to the place wherein he lies, and his manner of clothing. For when the patient sits up between whiles, the distemper finishes its course with greater ease, and also more expeditiously, than if he had been constantly kept in bed, which not only prolongs the illness, but likewise promotes the febrile heat, and occasions a painful inflammation upon the rising of the pustules. But if the coldness of the season, or a numerous eruption, makes it neces-

sary for the patient to keep his bed constantly, I take care to prevent his lying warmer, or with more clothes on him, than he used to do whilst in health; and that only a moderate fire be made in the room morning and night, unless it be the winter season. Neither do I require he should lie always in the same place in bed, lest a sweat be raised, which I absolutely maintain (supported both by the reasons above alleged, and by experience) cannot be promoted without considerable danger.

47. In the declension of the illness, when the free exhalation of the effluvia proceeding from the matter, now changed into pus, is prevented by the hardness and dryness of the pustules, it will be proper to give five or six spoonfuls of canary, warm, or some other mild cardiac, lest these putrid effluvia return again into the blood. And in reality at this time, and not before, cardiacs and a warmer and more cordial diet may be allowed; as sugar sops, oatmeal caudle, &c. Nor will any thing farther be needful in the kindly distinct sort, provided the patient will conform to this temperate method and diet; unless perhaps restlessness, watchings, or other symptoms, threatening a delirium, should occasionally require an opiate.

48. This is the true and genuine method of treating this kind of small pox; and will prevail after my decease, notwithstanding the ill-grounded prejudices of those that oppose it. And though I do not deny that abundance have recovered by a contrary treatment, yet it must also be acknowledged (and is deservedly to be lamented, if it be considered that this distinct kind is not at all dangerous in its own nature) that numbers have died, and that many more would have perished, unless they had been saved by the cold season in which the disease happens, or by bleeding not long before, which is otherwise unnecessary and useless. For this reason, therefore, if either through the obstinacy of the friends, or the diffidence of the patient, the preceding regimen be opposed, I esteem it safest to bleed, which, indeed, though it is in its own nature prejudicial in this kind of small pox, inasmuch as it disturbs the separation, and lessens the supplies intended to keep up the eruptions and swelling, yet it makes some little amends for the injuries of the subsequent hot regimen, and therefore renders this method, which I would not use, unless compelled thereto, less dangerous.*

49. From what has been said, it will be easy to solve the common difficulty; viz. whence it happens that so few of the poorer

* Our author in this section rises above the prejudices of his contemporaries against his practice, and enjoys in prospect the benefits that will flow from it to future generations. There cannot be a stronger mark of elevation of mind, and of true benevolence.

sort die in this disease, in comparison of the rich that are destroyed thereby ; for which indeed scarce any other cause can be assigned, than that by reason of the narrowness of their circumstances, and ordinary way of living, they have not the means of injuring themselves, as the rich have, by a more elegant diet. But this disease has proved fatal to abundance more of the common people, since they knew the manner of using mithridate, diascordium, hartshorn drink, &c. than it usually did in the less learned, but more prudent ages : for at present there is scarce an house without some illiterate, presuming woman, who, to the destruction of mankind, practises an art she never learnt.—And let this suffice with respect to the cure of the distinct small pox.

50. But in the confluent small pox there is great danger ; for I judge this kind differs as much from the other, as the plague does from this, though the vulgar, who admit names and words for things, hold the cure of both to be the same. In this kind of disease, as it proceeds from a greater inflammation of blood, more caution is required not to heat the patient ; as we observed above, in treating of the former sort. But though this kind naturally demands greater cooling than the other, yet, in order to promote the swelling of the face and hands, (without which death must ensue) and the elevation and increase of the eruptions, and likewise because the patient, on account of the painful ulcerations, cannot sit up, it is proper he should keep his body, and even his hands, in bed, provided he be lightly covered, and allowed to turn himself therein as he pleases ; as we before intimated in treating of the distinct sort. And in the declension of the distemper, upon the approach of the suppurative fever, he must not only be allowed this liberty, but admonished to make use of it, and must be turned often night and day, to moderate the excessive heat, and prevent sweat, by which the soft humour is discharged, wherewith the small pox should be diluted, to render them mild.

51. Since, therefore, as we remarked above, a spitting constantly accompanies this kind of small pox, which, as it is one of nature's principal evacuations, and is here substituted instead of that which should have been made by pustules (for the evacuation by pustules does not go on so well in this low and flat sort, as in the other) we must diligently endeavour to keep it at its height, and prevent its stopping too soon, either from the use of heating remedies, or by forbidding the free use of small beer, or some such liquor. Now as the spitting, in its natural order, is to begin as soon as the eruptions appear, and abate on the eleventh day, but not vanish entirely till a day or two after ; so if it goes quite off before that day, there is danger. For as the swelling of the face, whereby some part of the morbid matter is evacuated, always vanishes on that day, if the salivation stops at the same time, the

patient is infected by the variolous matter, now become corrupt, as by a poison ; and there being no way left for it to pass off, the danger is imminent, unless perhaps, as it sometimes happens, the swelling of the hands (which as it comes on later than that of the face, so it goes away more slowly) be so considerable as to snatch the patient from impending death. The salivation, which is so very advantageous and necessary here, may be much promoted by drinking freely of small beer, or some other liquor that neither heats, nor excites sweat.

52. But besides these, in order to check the violent ebullition of the blood, in which this sort of small pox greatly exceeds the distinct kind, and to keep up the spitting (the necessary evacuation in this disease) opiates are more proper than any other remedies ; and though by their incrassating quality they may seem in some measure to hinder the expectoration, yet I have long shaken off that prejudice, and given them in this disease with great success, provided the patient was above fourteen. For as the blood of infants and children, who generally sleep tolerably well throughout the course of this disease, ferments more gently, it stands less in need of such a check ; and, moreover, by the use of this kind of remedy, the looseness, which nature appoints to be an evacuation for children in this kind of disease, is stopt, to the detriment of the patient.

53. But in grown persons the frequent use of opiates is attended with the following advantages : 1. by procuring moderate rest they abate the violent ebullition of the blood, and of course prevent a delirium ; 2. they promote the swelling of the face and hands in a better manner, which is a very considerable natural evacuation in this disease ; 3. they keep up and prolong the swelling to its proper natural period ; which greatly contributes to the patient's safety, as the swelling of the face often falls before, to the endangering the patient ; for the heat of the blood being abated, the inflammatory rays are brought in due time to the hands, face, and the whole surface of the body, according to the nature of the disease ; 4. they promote the salivation, which though it may be stopt in some subjects for a few hours, by means of so powerful an incrassating medicine, yet the strength being increased by these new helps, nature resumes fresh vigour, and happily finishes the work begun ; 5. moreover, I have observed that the spitting, which usually abates about the eleventh day, and sometimes earlier, to the great detriment of the patient, by giving opiates a few times has been raised anew, and not ceased before the fourteenth day, and sometimes later. I usually give about fourteen drops of liquid laudanum, or an ounce of syrup of white poppies, in a little cowslip-flower water, or some such distilled water ; and if either of these medicines be given to grown persons every night after the eruption is over, to the end of the dis-

ease, not only no inconvenience, but great service will thence accrue to them, as I have frequently experienced. But I judge it proper to exhibit an opiate a little earlier than is otherwise usually done; for it is easy to be observed in the worst kind of small pox, that a hot fit, attended with restlessness, anxiety, and other symptoms, generally comes on in the evening, which may in some measure be prevented by administering an opiate at six or seven at night.*

54. In the next place, since a looseness as certainly accompanies the confluent small pox in children, as a salivation does the same in grown persons: nature as we observed above, constantly providing one of these evacuations to expel the morbid matter; so I take care by no means to check this looseness, any more than the salivation, both being alike improper. And the unseasonable endeavours of some imprudent women to stop the looseness has proved fatal to abundance of infants, whilst they falsely conclude it to be equally dangerous in this as in the distinct kind; not knowing that it is only detrimental in that kind where the evacuation is made by pustules, but is here the work of nature searching a passage for the disease to escape. Disregarding therefore the looseness, and assisting nature, as Hippocrates directs, I go on as I begun, advising them sometimes to keep the children in the cradle, and sometimes to take them up; and if they be weaned, I allow them the same diet as I before ordered for grown persons.

55. In the declension of the disease, when the face is stiff, occasioned by the eruptions becoming crusty, hard, and dry, I anoint it frequently with oil of sweet almonds, as well to ease the pain thence arising, as to promote a freer exhalation of the hot effluvia. I use no endeavours to prevent the pitting of the face, inasmuch as oils, liniments, &c. only cause the white scurf to scale off more slowly, which, falling off, and coming on again alternately, after the patient has quitted his bed, and is pretty well recovered, is gradually succeeded by unseemly scars. But the patient need not be very anxious about these, when by reason of a previous temperate regimen, the eruptions, having been little irritated, have contracted no caustic quality.

* This mode of giving opiates before the attack, or paroxysms of diseases has great advantages. It meets the disease in its feeble state, or before it is formed, and thus either prevents it, or lessens its violence. A less dose moreover will answer, than after the disease, or paroxysm is formed. The cough in pulmonary consumption should always be composed in this way.—We shall find hereafter, our author prescribed his opiates early in the afternoon in the dysentery of 1669, 1670, 1671 and 1672.

56. Now, though this method, provided it be carefully and prudently suited to particular circumstances, will prevent the above-mentioned preternatural and dangerous symptoms, and render the disease very gentle and safe, yet in some cases, which I shall here subjoin, I find it necessary to use a different method, in order to overcome and remove them, from what cause soever they arise before I am called.

57. First, therefore, if in the distinct kind, by means of an over-hot regimen, and continual sweats, the face does not swell on the eighth day, but is flaccid, and the spaces between the eruptions look pale, whilst these in the mean time shew themselves in great abundance, besides using my utmost endeavours for a more temperate regimen, and to check the violent motion of the blood, I immediately direct an opiate to be given, which, by gently procuring sleep (unless the brain be over-heated) and consequently moderating the tumult raised in the blood, seasonably determines it, together with the heat, to the face, as the nature of the disease demands.

58. But if the mischief hence arising has proceeded so far, that the sweat, which had hitherto flowed plentifully, ceases spontaneously, the patient is seized with a delirium, complains of great sickness, and makes urine often in a small quantity; in this case, the danger of death being imminent, I conceive he can only be relieved, either by giving opiates freely, or taking away a large quantity of blood, and exposing his body to the open air. Nor, indeed, will what I have now proposed seem so imprudent and unreasonable, upon attending to those who have escaped imminent death, by a plentiful bleeding at the nose suddenly arising. Moreover, it must be considered that, in this dangerous extremity, death does not ensue because the eruptions strike in, for they appear red and plump, even when the patient is expiring, but because the face does not swell. Now whatever tends to abate the heat of the blood (and I conceive none will deny that bleeding and moderate cooling medicines have this virtue) must necessarily help to promote the swelling of the face, as much as the use of opiates, and apparently for the same reasons.

59. But I would not have this understood as if I would advise bleeding immediately in every delirium happening in the small pox, since no symptom oftener occurs in this disease; but 1. in that only which happens because the face does not swell, that is, in the distinct kind, the eruptions at the same time being pretty numerous; or 2. where the motion of the blood is become so violent and immoderate by means of a very hot regimen, and the use of cardiacs, as to render it unsafe to wait till it can be reduced to a due temper by opiates, and other medicines productive of the like effect. When the case is thus circumstanced, the physician, consulting his duty rather than a precarious reputation, ought

either to bleed,* as above intimated, or order the patient to be refreshed with the open air ; and to obtain the end here it has frequently seemed sufficient to me, for the patient to rise, and sit up awhile in his raving fit, by which expedient I have saved several from death. And besides those I have seen, there are numberless instances of persons who by this means have been snatched from imminent danger ; for some delirious persons deceiving their nurses (and those who are lightheaded use wonderful contrivances) and getting out of bed, have remained exposed to the cold air, even in the night: and others again either by stealth, unawares, or by entreaty, have got cold water of their nurses, and drank it, and thus by a happy mistake recovered their health when despaired of.

60. I will here communicate a single instance, which I had from the person concerned. He told me that when he was a young man, he went to Bristol, and was there seized with the small pox about Midsummer, followed soon after by a delirium. His nurse, going into the city, left him in the mean while to the care of some other persons, intending to be back soon ; but making a pretty long stay, the patient in the interim died, as the attendants thought ; who considering the heat of the season, and his corpulency, that the body might not smell, took it out of bed, and laid it naked on a table, throwing a sheet over it. The nurse at length returning, and hearing the ill news, entered the room to behold the sad spectacle, and immediately throwing by the sheet, and looking on his face, imagined she saw some small signs of life, and therefore put him to bed again directly, and using some means or other brought him to himself, and he recovered in a few days.†

61. But to resume our subject: if the saliva in the confluent small pox becomes so hard and viscid by the preceding heat as to endanger suffocation, which, as we observed above, commonly happens on the eleventh day, a gargarism must absolutely be used, and great charge given to syringe the throat with it often, night and day. Small beer, or barley water, mixed with honey of roses, may be used for this purpose, or the following :

* I have bled in the secondary fever of the small pox with success, and observed the blood to be sily.

† Many similar instances of resuscitation might be mentioned from the effects of cool, and fresh air. The late Dr. Huck informed me, that while he acted in his medical capacity at the siege of the Havannah in 1762, he went on board a transport, to visit the sick. Finding a soldier lying in his bed apparently dead, he directed him to be put into a boat and conveyed to the shore in order to be buried. The boat was fanned as it approached the shore by a pleasant breeze. The soldier revived on his way, and finally recovered.

Take of bark of elm, six drams ; liquorice root, half an ounce ; twenty stoned raisins ; red roses, two pugils ; boil them together in water sufficient to leave a pint and half ; in which, when strained off, dissolve simple oxymel and honey of roses, of each two ounces : mix the whole for a gargarism.

But if the patient has been treated in a proper manner, the salivation, even though it has begun to abate, will so effectually answer its end, as to render this remedy needless. And, in reality, when the patient is every moment in danger of suffocation, oppressed with a stupor, and breathes with the utmost difficulty, it is not safe to trust to this remedy. In this case I have sometimes seasonably and successfully given a vomit of the infusion of crocus metallorum, in a larger dose than ordinary, viz. an ounce and half ; because the stupor is so considerable that a smaller quantity will not operate, but, by disturbing those humours which it cannot eject, greatly endangers the life of the patient. Neither can we wholly trust to this remedy, and, which is truly to be regretted, we are hitherto unprovided with a more certain and effectual one to conquer this dreadful symptom, which alone destroys most of those who die on the eleventh day in this kind of small pox.

62. As the other symptoms happening in this distemper are prevented, so likewise most of them are relieved by a temperate regimen. For instance, as the delirium above mentioned, proceeding from the too great heat of the brain, is removed by some way cooling the blood, so by the same means a coma is easily remedied, which seems to be a quite different symptom from the former, and arises from an obstruction of the cortical part of the brain from hot effluvia, proceeding from the blood, attenuated by a hot regimen and heating medicines, being violently driven thither in great abundance.

63. By cooling the blood in this manner, I have seen purple spots removed ; but have not yet been able, by this or any other method, to stop bloody urine, or a violent flux of the blood from the lungs ; but so far as I have hitherto observed, both these hæmorrhages certainly prognosticate death.

64. In a suppression of urine, which sometimes happens in young and lively persons from the great confusion and disorder of the spirits subservient to this excretion, by reason of the immoderate heat and agitation of the blood and juices, I have had recourse to all the kinds of diuretics, but nothing has succeeded so well with me as taking the patient out of bed, who being supported by those about him, and taking two or three turns across the room, has immediately made water pretty plentifully, to his great relief. To confirm the truth of this, I might here appeal to some physicians of my acquaintance, who, by my advice, have

directed the same expedient to be used in the same case, and found it answer the end.*

65. But the symptoms proceeding from the striking in of the variolous matter, by intense cold, or unseasonable evacuations, must be remedied by cardiacs, and a suitable regimen; which, however, must not be continued longer than these symptoms last. The principal of these are, a depression, or sinking of the pustules, and a looseness, both in the distinct kind. For in the confluent kind neither the sinking of the pustules threatens danger, this being the nature of the disease, nor a looseness in children, because it promotes their recovery. In either case it is highly proper to give a cordial draught, made of some proper distilled waters, mixed with diascordium, liquid laudanum, &c. not only in order to remove the above-mentioned symptoms, but at any time of the disease, if the patient complains of a pain at the heart and sickness. But to speak the truth, the symptoms of this kind very rarely happen, in comparison of those arising from the other more fatal, though less censured, extreme. And in reality I judge the rumour which has so much prevailed, of the frequent striking in of the eruptions, to proceed from hence, that such as have observed the depression of them in the confluent kind, esteemed it to be a striking in of the variolous matter from taking cold; whereas, here it is only the nature of the disease: and they suspect the same in the distinct kind, because they look for the eruptions and increase of the pustules before the due time; not having sufficiently attended to the time wherein nature usually finishes the suppuration of this sort of small pox.

66. When the patient begins to recover, and the eruptions scale off, and he has eat flesh a few days, for example, the one and twentieth day, I judge it requisite to bleed in the arm, if the disease has been violent: for the inflammation communicated to the blood by the small pox, whether in grown persons or children, equally indicates bleeding, as the foulness collected in the habit does purging; as appears sufficiently both from the colour of the blood taken away after a severe small pox, which exactly resembles that of pleuritics, and likewise from the great inflammations that fall on the eyes after it is gone off, and other pernicious effects, arising from the blood over-heated and vitiated thereby. Hence also it follows, that such as enjoyed a good state before they had the small pox, are afterwards afflicted with

* This symptom occurs in violent fevers as well as in the small pox. The remedy is a reasonable one. It appears to act by throwing the fluids suddenly in such quantities upon the kidneys, as to open their obstructions.

a defluxion of sharp hot humours upon the lungs, or some other part, for the remainder of life. But if the pustules were few, bleeding is unnecessary: after bleeding, I purge three or four times.*

67. To these observations let me add, that after the patient has been long recovered from the confluent small pox, and rises every day, there sometimes happens a troublesome swelling of the legs, which either goes off spontaneously after bleeding† and purging, or is easily cured by the use of fomentations, made of emollient and discutient herbs, boiled in milk; as the leaves of mallows, mullein, elder, laurel, and cammomile and melilot flowers.—And let this suffice for the history and cure of the small pox, that prevailed for these two years, which I chuse to call legitimate or regular, in order to distinguish them from the other kinds that succeeded them.

CHAP. III.

THE CONTINUED FEVER OF THE YEARS 1667, 1668, AND PART OF 1669.

1. I PROCEED now to treat of the fever that prevailed during this variolous constitution, and began and ended with the small pox. 1. The patient was seized with a pain below the pit of the stomach, and such a soreness that he could not bear to have it touched, which symptom I do not remember to have observed in any other disease besides this fever and this kind of small pox; 2. a pain in the head, a heat of the whole body, and also very visible petechiæ; 3. little thirst; 4. the tongue like that of a healthy person, unless that it was sometimes white, but very rarely dry, and never black; 5. profuse spontaneous sweats in

* Abstemious diet and purging were formerly used after the natural small pox, but cases often occurred in which bleeding was necessary to obviate the evils mentioned by our author.

† Bleeding in dropsies has been considered as an innovation in medicine, but we have here the authority of our author in its favour. It has been used by many physicians in the United States, since his time, and generally with success, where the disease has been attended with inflammatory symptoms.

the beginning, which afforded no relief,* and being promoted by a hot regimen and hot medicines, soon endangered a delirium, augmented the number of the petechiæ, and rendered all the other symptoms more violent; 6. a laudable separation in the urine from the beginning of the illness, that gave hopes of recovery, but did not relieve the patient more than the above-mentioned sweats; 7. this disease, by wrong management, generally proved very obstinate, neither terminating by way of crisis, nor spontaneously in the manner of other fevers; but continued six or eight weeks, accompanied with violent symptoms, unless death interposed and put a stop to it sooner; 8. when no considerable evacuation had preceded, and cooling julaps had been used, a pretty plentiful salivation sometimes arose towards the decline, whereby the disease was carried off beyond expectation, provided this discharge was not checked by evacuations, or the use of heating medicines.†

2. Now as this fever depended upon that epidemic constitution of the air, which at the same time produced the small pox; so in effect, it seemed to be nearly of the same nature therewith, except in those symptoms which necessarily depended on the eruption. For they both attacked in the same manner, and were attended with the like pain and soreness of the parts below the pit of the stomach, there was the same colour of the tongue, and consistence of the urine, &c. The same profuse sweat arose in the beginning, and the same tendency to a salivation when the inflammation was violent, as accompanied the small pox, when it proved of the confluent kind. Since therefore this fever did also prevail chiefly at the time the small pox was more epidemic than I had ever known it here, no one can doubt their being of the same tribe. This I certainly know, that all the practical indications were manifestly the same in both diseases, those excepted, which the eruption of the small pox, and the symptoms thence arising, afforded, which could not be expected in this fever, because it was not attended with an eruption. And this indeed appeared very evident to me from the accurate observations I made in treating such as had either of these diseases. For these reasons I must be allowed to call this a variolous fever, not because I affect the giving new names to things, for no one can dislike that more than I do, but in order to distin-

* "Little thirst, a healthy tongue, and spontaneous sweats in the beginning which afford no relief," continue to be occasionally the marks of violent fevers in all countries.

† We meet with another instance in this place of a salivation being one of nature's remedies for the cure of fevers.

guish it from other fevers, and on account of the great similitude which it bears to this sort of the small pox.

3. But how nearly soever this fever resembled the small pox, no judicious person will conclude that it ought to be treated in the same manner; because in the small pox the inflamed particles are thrown out upon the skin, by means of little abscesses; whereas in the present fever they are discharged by salivation. For the profuse sweats at the beginning were symptomatical, not critical, nature seeming to have intended no other evacuation in this disease than a spitting; which yet she generally checks, either 1. by a looseness, which frequently proceeds from inflammatory rays conveyed through the mesenteric arteries into the intestines, and irritating them to discharge their contents, (as is usual also in pleurisies, and other inflammatory fevers, by reason of the great commotion of the blood and hot particles, endeavouring to be cooled); or 2. by the profuse sweats, which, by the appointment of nature, equally accompanied this fever and the small pox; and these sweats being symptomatical, the salivation, that would otherwise have proved critical, was derived another way, whence, unless art suggested some other evacuation, the disease continued for some weeks, and did not come to concoction in the manner of other fevers.

4. But to go on with our inquiry: in order to come at a better knowledge of the nature of this fever, and establish the curative indications on a solid foundation, it must be carefully noted that in the fever that prevailed during the epidemic constitutions which gave rise to intermittents, the matter to be separated from the blood was so thick, that it could not be separated without previous digestion, fitting it for a proper evacuation, at an appointed time, either by means of a plentiful perspiration or a critical looseness; so that the physician had nothing more to do than to suit the treatment to the nature of the disease, so as on the one hand to prevent its rising too high, and causing dangerous symptoms, and on the other to hinder its sinking so low as to be unable to expel the morbid matter; a fever being the instrument of nature to perform this secretion.

5. Again, there is likewise in the plague a matter to be separated from the blood; but as the parts thereof are very subtile and inflammable (so that sometimes when they are violently irritated they pervade the blood like lightning, and can raise no ebullition therein) it passes through the mass in a moment, and is only stopped in a gland, or some external part, where, being entangled, it occasions an inflammation, and afterwards an imposthume. Now an imposthume is the instrument of nature, whereby she expels whatever injures the fleshy part, as a fever is her instrument to carry off whatever is prejudicial to the blood. In this case, therefore, it is the business of the phy-

sician to assist nature, in a proper manner, in her endeavours to discharge the pestilential matter by these imposthumes ; unless, perhaps, it should seem more adviseable to substitute some other evacuation in its stead, which might be more in his power, and he could regulate with greater certainty than that of nature. In the same manner does nature proceed in expelling the variolous matter, though it is a grosser species of inflammation, and discharged by means of numerous eruptions, instead of carbuncles and buboes, &c. so that in this case also the curative indications are to be so directed, as to promote the evacuation by the eruptions in a regular manner.

6. But as in this kind of inflammatory fever we meet with no such gross matter requiring previous digestion before it can be expelled, as in the intermitting fever above described, so it is a fruitless endeavour to promote the ebullition in order to procure this kind of digestion. On the contrary, this procedure endangers the increasing a disease, the essence whereof consists in a very violent inflammation, and must likewise be improper here, because nature has appointed no evacuation for this fever by eruptions, as we see in pestilential fevers and the small pox ; though in other respects it resembles the latter. Hence it follows, that the whole of the cure necessarily consists in checking the inflammation, by evacuations and cooling remedies. Having this end therefore in view, I attempted the cure of this fever by the following method, to which it readily yielded.

7. Being called to a patient, I immediately directed bleeding in the arm, if great weakness, or especially old age did not contra-indicate, and ordered the operation to be repeated every other day, for twice, unless the signs of recovery rendered it unnecessary. On the intermediate days I prescribed a glyster of milk and sugar, or the like, to be injected, and directed the following julap, or one of the same kind, to be frequently used throughout the course of the disease :

Take of the distilled waters of purslain, lettuce, and cowslip flowers, of each four ounces ; syrup of lemons, an ounce and half ; syrup of violets, an ounce ; mix them together for a julap ; and let three ounces of it be taken four or five times a day, or at pleasure.

I allowed whey, barley water, and such liquors, for common drink ; and for diet, barley broth, water gruel, panada, roast apples, &c. but I forbid chicken broth, or any kind of broth made of flesh.

8. I chiefly recommended that the patient should not keep his bed constantly, but rise every day, and sit up a good part of the day, having observed in this fever, as in the pleurisy, rheuma-

tism, and all other inflammatory disorders, wherein bleeding and the cooling regimen are the principal remedies, that neither the most cooling medicines, nor frequent bleeding, can do service, whilst the patient lies perpetually in bed, and is inflamed by the heat thereof, especially in the summer season. And upon this account the sweat which flowed at times did not deter me from this method of cooling, both by giving cooling medicines, and forbidding a constant confinement in bed.* For though one might reasonably expect great advantages in pursuing an indication taken from what generally proves serviceable, yet I have found, by constant experience, that the patient not only finds no relief, but contrariwise is more heated thereby; so that frequently a delirium, petechiæ, and other very dangerous symptoms immediately succeed such sweats, which seem to arise more from wrong management than from the malignity of the disease.

9. If it be here objected that this method of curing fevers runs directly counter to the theory of those authors, who unanimously maintain that a fever is most properly and naturally cured by sweat; besides the testimony of a never-failing experience, which is always on my side in the cure of this particular fever, these reasons also favour my practice: First, I imagine that those who contend for promoting sweat in order to take off a fever, mean such a one as appears after the previous digestion of some humour lodged in the blood, in preparing and moulding of which, that it might be discharged by sweat, nature has employed some certain fixed time. But here the case is quite otherwise, for profuse sweats arise in the beginning of the disease, and alone make a considerable part thereof; and if we may judge from all the symptoms, this disease seems to proceed rather from the sole heat of the blood, than from some humour concealed therein, to be expelled, after due concoction, by sweat. But granting there is such an humour to be found in this fever, as requires to be ripened by digestion, which is the case in many other fevers; yet to what purpose is it to comply with nature (whose violent efforts it is our business to moderate) by promoting these sweats with cardiacs, or a hot regimen, when she exerts herself too much already, since the trite axiom of Hippocrates, namely, that concocted and not crude matters are to be evacuated, relates to sweating as much as to purging?

10. Whilst this constitution prevailed, I was called to Dr. Morice, who then practised in London, and now in Pentworth.

* This practice cannot be too much commended.—It conveys off heat from the body, relieves head-ache, and abstracts preternatural excitement from the blood vessels into the muscles, and thus contributes to restore natural excitement in the whole body.

He had this fever, attended with profuse sweats and numerous petechiæ. By the consent of some other physicians, our joint friends, he was blooded, and rose from his bed, his body being first wiped dry. He found immediate relief from the use of a cooling diet and medicines, the dangerous symptoms soon going off; and by continuing this method recovered in a few days.*

11. But to resume our subject: neither did the looseness, which often accompanied this fever, at all hinder my proceeding in the above-mentioned method, having experienced that nothing proved so effectual in stopping this discharge, as bleeding, and cooling the blood by barley water, whey, and other things above enumerated; inasmuch as this looseness proceeded from inflammatory vapours, separated from the blood through the mesenteric arteries into the intestines, and vellicating these parts.†

12. In reality, this method succeeded admirably with me in the cure of this disease, and seemed better adapted to it than any other. I have, however, sometimes seen a very different method used with success, namely, cardiacs and the hot regimen, but the patient always appeared to me to run great hazards unnecessarily. For by this means the petechiæ, which were otherwise very few, became exceeding numerous: the thirst, that was generally inconsiderable, was extremely increased, and the tongue, that was otherwise moist, and not much unlike that of healthy persons, except, as we said above, that it was whitish, appeared dry and crisp, and frequently turned black. Lastly, even the sweats, which they endeavoured to force by means of cardiacs, were at length entirely stopped thereby.‡ For too large a quantity of serum being drained off by the cutaneous ducts, the blood became unable to furnish more of it, and the fluid part being quite wasted, wherewith it should have been diluted, a dryness of the skin, and a stoppage of the pores ensued, (contrary to the ordinary course nature used to observe in this fever) till at length the blood, being again replenished by

* Several persons perished with the yellow fever in Philadelphia in 1793, from relying upon spontaneous sweats to cure it, or from supposing it unsafe to bleed during their continuance.

† The effects of bleeding in curing certain states of diarrhœa is worthy of attention. Our author mentions them in several other places, particularly in the diarrhœa which succeeds the measles and small pox. Bleeding should be regulated in this disease, whether acute or chronic, by the pulse. It is to be regretted it is not always felt in such cases.

‡ There is in fevers a specific point, at which, only, sweats afford relief. Above, and below it, they do harm.

the moisture received from the aliment taken in, expels this serum together with the fever, partly by medicine, and partly by the force of the fever itself. But in reality this crisis was too forced, and too dangerous, and, which is still worse, it seldom happened.

13. But since, as we observed above, the solution or cure of this fever, and of the small pox likewise, which so nearly resembles it, was frequently effected by a salivation, which always proved beneficial; so that when it flowed copiously, I have known both the purple spots and fever vanish; upon this account, therefore, when the salivation begins, no evacuation must be made, either by bleeding or glysters, since by the use of either, it is odds but the humour is carried another way. But whey and other cooling things promote the necessary business of salivation; as, on the contrary, cardiacs, and all heating things, by thickening the matter, check its discharge.

14. Before this fever went quite off, and particularly in the year 1668, a looseness became epidemic, without any manifest sign of a fever, for the constitution at this time inclined to the dysentery, which prevailed in the following year, whereof we shall treat in the next section. Nevertheless, I judge this looseness to be the same fever with the then reigning variolous fever, and that it only differed in form, and appeared under another symptom. For having observed that a chilliness and shaking did likewise ordinarily precede this looseness, and further, that it generally arose from the same cause with the then reigning fever, it seemed probable to me that this fever proceeded from inflammatory rays turned inwards upon the intestines, and irritating them to this discharge; whilst the blood, in the mean time, by this revulsion, was freed from the ill effects these rays would otherwise have occasioned, without any visible external sign of a fever. To this we may add, that the parts below the pit of the stomach were so tender as not to abide the touch, which symptoms, as we mentioned above, happened in the small pox and fever of this constitution; and the same pain and tenderness of the flesh often reached to the epigastrium, and sometimes there was an inflammation, which ended in an imposthume, and destroyed the patient: all which apparently shewed this looseness to be of the very same nature and essence with the then reigning fever: and this opinion of mine was further confirmed from the good success, which bleeding and the use of cooling regimen always had in stopping this looseness, for it readily yielded to this method, which is the same we used in the cure of the variolous fever, as we have frequently mentioned above. But when it was treated in a contrary manner, either 1. by giving rhubarb, and other lenient purgatives, to carry off the acrid-

monious humours, supposed to irritate the intestines to these discharges; or 2. by administering astringents; this disease, though naturally gentle, frequently proved mortal, as the bills of mortality of the current year sufficiently testified.* And let this suffice for the epidemic diseases that depend on this constitution.

* See! here again in the whole of this section an instance of the sagacity of our author, and another proof of the unity of disease, and of the influence of a belief in that unity, in leading to successful practice.

SECTION IV.

CHAP. I.

THE EPIDEMIC CONSTITUTION OF PART OF THE YEAR 1669,
AND OF THE YEARS 1670, 1671, 1672, AT LONDON.

1. IN the beginning of August, 1669, the cholera morbus, the dry gripes, and likewise a dysentery that rarely appeared during the ten preceding years, began to rage. But though the cholera morbus proved more epidemic than I had ever known it before, yet nevertheless it terminated this year in August, as it always does, and scarce reached the first weeks of September. But the dry gripes continued to the end of autumn, and accompanied the dysentery, and prevailed more generally than that distemper. But upon the coming in of winter, this disorder likewise vanished, and appeared no more throughout the subsequent years wherein this constitution prevailed, whereas the dysentery became more epidemic. Now I judge the cause of this to have been, that the then reigning constitution had not yet so perfect a tendency to a dysentery, as to be able to produce all those symptoms in every subject, which affect such as are seized with this disease; for in the following autumn, when the gripes returned, the dysentery was accompanied with every pathognomic symptom.*

2. Between these gripes and the above-mentioned dysentery, which raged very universally, a new kind of fever arose, and, attended both diseases, and not only attacked such as had been afflicted with either of the former, but even those who had hitherto escaped them, unless that sometimes, though very seldom, it was accompanied with slight gripings, sometimes with stools, and at others without. Now as this fever in some measure resembled that which frequently attended the above-mentioned diseases, it must be distinguished from others, by the title of the dysenteric fever; especially since, as we shall afterwards shew, it only differed from the genius and nature of the dysentery in this particular, that it had not those discharges which always accompany the dysentery, nor the other effects necessarily occasioned by this evacuation. Upon the approach

* This section serves still further to illustrate the remark in the preceding note.

of winter the dysentery vanished for a time, but the dysenteric fever raged more violently; and a mild small pox also appeared in some places.

3. In the beginning of the following year, namely, in January, the measles succeeded, and increasing every day till the vernal equinox, suffered few families, and particularly no children, to escape. But from this time they abated nearly in the same degree they had increased, and appeared no more throughout all those years wherein this constitution prevailed, excepting only the following year, in which they seized a few at the same time they arose in the preceding year.

4. This kind of the measles introduced a kind of small pox, which I was hitherto unacquainted with, so that to distinguish it from the other kinds, I chuse to entitle it the anomalous or irregular small pox of the dysenteric constitution, because of its irregular and uncommon symptoms, which differed considerably from those of the small pox of the foregoing constitution; as will appear hereafter, when we come to give the history thereof. The small pox, though not near so common as the measles, attacked several persons till the beginning of July, when the dysenteric fever prevailed, and became epidemic. But upon the approach of autumn, namely in August, the dysentery returned, and made a greater devastation than in the preceding year, but it was checked by the winter's cold, as before; and these being conquered, the dysenteric fever and small pox raged the winter throughout.

5. But about the beginning of February in the following year, intermittent tertians arose, whence both diseases became less frequent. And although these tertians were not very epidemic, yet prevailed more generally than I had ever seen at any other time since the close of that constitution, which, as we before observed, had so remarkable a tendency to produce them. But these, according to the manner of vernal intermittents, went off immediately after the summer solstice. In the beginning of July the dysenteric fever again resumed the station it held in the preceding years; and towards the decline of autumn, the dysentery returned a third time, but did not rage so much as in the immediately foregoing year, wherein it seemed to have arrived at its height: but upon the approach of winter it vanished, and the dysenteric fever and small pox prevailed during the rest of that season.

6. We observed above, that at the beginning of the two preceding years, two remarkably epidemic diseases raged (e. gr.) the measles at the beginning of 1670, and intermittent tertians at the beginning of 1671; and prevailed so considerably as to overpower the small pox, and prevent its spreading much in the beginning

of these years.* But in the beginning of 1672, when those obstacles to its progress were removed, and this distemper reigned alone, it of course proved very epidemic till July, when the dysenteric fever again prevailed, but soon gave place to the dysentery, which returned a fourth time in August, and was then not only less frequent, but attended with milder symptoms than in the former years. Moreover, the small pox likewise attacked a few, so that it was not easy to distinguish which of the two diseases prevailed. I conceive indeed that the constitution of the air having a less tendency to produce the dysentery, rendered the small pox powerful enough to equal it, otherwise than it happened in those years wherein the dysentery proved extremely mortal in August. The winter, as usual, put a stop to the dysentery, but the fever and small pox remained, and the latter, according to its nature, became the chief disease, and continued all winter, and attacked a few in the following spring, and likewise in the beginning of summer; but it was considerably milder than this kind had been before.

7. But when I affirm that one epidemic disease is expelled by another, I do not mean that the yielding disease becomes quite extinct, but only less frequent; for during this constitution each disease appeared even in that season which least favoured it. For instance, the dysentery, though it be a disease particularly belonging to autumn, did perhaps attack a few in the spring, but very rarely.

8. We have therefore sufficiently proved that, during the course of this constitution, the dysenteric fever prevailed in the beginning of July, in which month autumnal fevers as certainly arise, as vernal ones do in February. But upon the approach of autumn the dysentery succeeded it, which, strictly speaking, is an autumnal disease; and this being overcome by the winter, the dysenteric fever and the small pox prevailed, which last distemper continued all that winter, the next spring, and ensuing summer, till the return of July, when it was expelled by the epidemic dysenteric fever.—And these were the revolutions that happened whilst this constitution lasted.

9. It must further be observed, that as each epidemic disease is attended with its periods of increase, height, and decline, in

* The predominance of the intermitting fever over the small pox may appear at first sight to be opposed to one of the laws of epidemics, the former being a disease of less force than the former. This takes place only after the more powerful epidemic has continued so long as to exhaust the susceptibility of the system to its impressions, and thereby to favour the action of a more feeble disease upon it.

every subject ; so likewise every general constitution of years that has a tendency to produce some particular epidemic, has its periods, according to the time it presides ; for it grows every day more violent, till it comes to its height, and then abates nearly in the same degree, till it becomes extinct, and yields to another. But with respect to the symptoms, they are most violent in the beginning of the constitution, after which they gradually abate, and in the close thereof are as mild as the nature of the disease, whence they proceed, will give leave : which appears manifest in the dysentery and small pox of this constitution, as we shall presently shew more at large.* I proceed now to treat particularly of the diseases of this constitution, according to the order which they observed.

CHAP. II.

OF THE CHOLERA MORBUS OF THE YEAR 1669.

1. **THIS** disease, as we before said, was more epidemic in the year 1669, than I ever remember to have known it in any other. It comes almost as constantly at the close of summer, and towards the beginning of autumn, as swallows in the beginning of spring, and cuckows towards midsummer. There is also an indisposition caused by a surfeit, which happens at any time of the year, which with respect to its symptoms resembles the cholera morbus, and yields to the same treatment, and yet it is of a different kind. The cholera morbus is easily known by the following signs : 1. immoderate vomiting, and a discharge of vitiated humours by stool, with great difficulty and pain ; 2. violent pain and distension of the abdomen and intestines ; 3. heart-burn, thirst, quick pulse, heat and anxiety, and frequently a small and irregular pulse ; 4. great nausea, and sometimes colliquative sweats ; 5. contraction of the limbs ; 6. fainting ; 7. coldness of the extremities, and other like symptoms, which greatly terrify the attendants, and often destroy the patient in twenty-four hours. There is likewise a dry cholera, caused by a flatus passing upwards and downwards, without retchings, or stools, which I never saw but once, and that was at the beginning of the present autumn, when the former kind was very common.

* The truth of this remark is founded upon what was delivered in the preceding note.

2. Much consideration and experience have taught me, that to endeavour on the one hand to expel the sharp humours which feed this disease by purgatives, would be like attempting to extinguish fire with oil, as the most lenient cathartics would increase the disturbance, and raise new tumults. And, on the other hand, to check the first effort of the humour in the very beginning by opiates and other astringents, whilst I prevented the natural evacuation, and forcibly detained the humour in the body, would doubtless destroy the patient by an intestine commotion, the enemy being pent up in the bowels. These reasons therefore led me to keep the middle path, viz. partly to evacuate, and partly to dilute the humour; and by this method, which I found out and experienced many years ago, I have always conquered this disease.

3. Let a chicken be boiled in about three gallons of spring water, so that the liquor may scarce taste of the flesh; and let several large draughts of it be drank warm, or for want of it, of posset drink.* At the same time a large quantity of the same is to be given at several times, successively, by way of glyster, till the whole be taken in and discharged by vomiting and stool. An ounce of the syrup of lettuce, violets, purslain, or water lily, may now and then be added to the draughts and glysters; but the chicken water will answer the end pretty well alone. The stomach in this manner being often loaded with a large quantity of liquor, and its motion, as it were, inverted thereby, and glysters being frequently thrown in, the sharp humours are either evacuated, or, their acrimony being blunted, restored to their due temper and mixture.

4. When this business is over, which requires three or four hours, an opiate completes the cure. I frequently use the following, but any other may be substituted in its stead:

Take of cowslip flower water, an ounce; aqua mirabilis, two drams; liquid laudanum, sixteen drops; mix them together.

5. This method of diluting the humours is abundantly safer and quicker than the ordinary one of treating this dangerous disease, either by evacuants, or astringents; for evacuants increase the disturbance and commotions, and astringents detain the enemy in the bowels, so that, not to mention the trouble occasioned by prolonging the disease, there is danger lest the vitiated humours get into the blood, and cause a fever of a bad kind.

* There is seldom time to wait for the preparation of this drink. Mint and mallows tea, burnt bread tea, or toasted oat meal diffused through hot water, will all serve the same purpose as chicken water.

6. But it must be carefully noted, that if the physician be not called till the vomiting and looseness have continued, for instance, ten or twelve hours, and the patient is exhausted, and the extremities are grown cold, he must then, omitting all other remedies, have immediate recourse to laudanum, the last refuge in this disease; which is not only to be given during the urgency of the symptoms, but repeated every morning and night after the vomiting and looseness are gone off, till the patient recovers his former strength and health.

7. Though this disease be epidemic, as we remarked above, yet it very rarely lasts longer than the month of August, wherein it began; whence one may take occasion to consider the elegant and subtile contrivance nature uses in producing epidemic diseases. For though the same causes entirely remain, which may occasion this distemper in several persons towards the end of September as well as in August, namely, a surfeit of fruit, yet we find the same effect does not follow. For whoever carefully attends to the appearances of a legitimate or true cholera morbus, of which only we now treat, must acknowledge that the disease occasionally happening at any other time of the year, though proceeding from the same cause, and accompanied with some of the same symptoms, totally differs from that just mentioned; as if there lay concealed some peculiar disposition in the air of this particular month, which is able to impregnate the blood, or ferment of the stomach, with a kind of specific alteration, adapted only to this disease.*

* The whole of this remark accords with the character of the cholera morbus in the middle States. It is frequently attended with symptoms, particularly such a degree of action in the pulse, as to render bleeding necessary to cure it. This remedy has become more necessary than usual, since the prevalence of the yellow fever, and of an inflammatory constitution of the atmosphere, in the city of Philadelphia. It was remarkably successful when used in this disease in children, in whom it has acquired the name of cholera infantum.

CHAP. III.

OF THE DYSENTERY OF PART OF THE YEAR 1669, AND OF THE YEARS 1670, 1671, 1672.

1. IN the beginning of August, 1669, as before observed, the dry gripes appeared, and during the course of that autumn equalled, or rather exceeded the dysentery which arose with them, in respect to the numbers they attacked. Sometimes a fever accompanied them, and sometimes not; but they exactly resembled the gripes which attended the dysentery that prevailed at the same time; for they were extremely violent, and attacked at intervals, but no natural or mucous stools succeeded. They prevailed equally with the dysentery throughout this autumn, but appeared no more epidemically in the following years of this constitution. As these dry gripes differ little either in their nature, or the method whereby they were easily removed, from the dysentery, I proceed to treat of this last distemper.

2. It has been already remarked that the dysentery generally comes, as the present one did, in the beginning of autumn, and goes off for a time upon the approach of winter; but when a series of years are too much disposed to produce it epidemically, it may seize a few at any other time, and abundance at the beginning of spring, or perhaps earlier, if warm weather immediately succeeds a severe frost, terminated by a sudden thaw. And though very few may be attacked with it, yet as this happens at so unusual a time, I am well convinced that the constitution eminently favours this disease. Thus it happened in those years wherein the dysentery proved very epidemic; for sometimes, as we observed above, it siezed a few towards the end of winter, or beginning of spring.

3. It sometimes begins 1. with a chilness and shaking, immediately succeeded 2. by a heat of the whole body, as is usual in fevers, and soon after 3. gripes and stools follow: it is indeed, frequently, not preceded by a fever, but the gripes attack first, and stools soon succeed; 4. however, intolerable gripings, and a painful descent, as it were, of all the bowels, always accompany the stools, which are very frequent; and 5. all mucous, not excrementitious, unless that sometimes an excrementitious one intervenes without any considerable pain; 6. the mucous stools are generally streaked with blood, but sometimes not the least blood is mixed with them, throughout the whole course of the disease; nevertheless if they be frequent, mucous, and accompanied with gripings, the distemper may as justly be entitled a

dysentery, as if blood was discharged along with them. 7. Farther, if the patient be in the vigour of life, or has been heated by cardiacs, a fever arises, and the tongue is covered with a thick, white mucous; and if he has been very much heated, it is black and dry; great loss of strength and lowness of spirits, and all the signs of an ill-conditioned fever are joined with it. 8. This disease occasions extreme pain and sickness, and greatly endangers life, if unskillfully treated; for when the spirits are much exhausted, and the vital heat diminished by frequent stools, before the matter can be expelled from the blood, a coldness of the extremities ensues, and there is danger of death even within the periods of acute diseases. But if the patient escapes for this time, several symptoms of a different kind succeed; for instance, sometimes in the progress of the disease, instead of those sanguineous filaments which are usually mixed with the stools in the beginning, a large quantity of pure blood, unmixed with mucous, is voided at every stool, which, as it manifests an erosion of some of the larger vessels of the intestines, threatens death. 9. Sometimes also the intestines are affected with an incurable gangrene, caused by the violent inflammation arising from the plentiful afflux of that hot and sharp matter to the affected parts. 10. Moreover, at the decline of the disease, aphthæ frequently affect the internal parts of the mouth, especially when the patient has been kept very hot for a long time, and the evacuation of the peccant matter checked by astringents, the fuel of the disease not having been first carried off by cathartics; these aphthæ generally foreshew imminent death.

4. But if the patient survive the foregoing symptoms, and the disease prove lasting, the intestines at length seem to be affected successively downwards, till it be driven to the rectum, and ends in a tenesmus; upon which the natural stools, otherwise than in a dysentery, occasion great pain in the bowels, the fæces in their passage through them abrading the small guts; whereas the mucous stools only offend the rectum during the time that the matter is made, and discharged. But though this disease often proves mortal in grown persons, and especially in the aged, it is nevertheless very gentle in children, who have it sometimes for some months without any inconvenience, provided the cure of it be left to nature.

5. What similitude there is between the dysentery here described, and the endemic dysentery of Ireland, I know not, having hitherto no account of the latter. Neither have I discovered how far this dysentery resembles those happening in other years here in England. For, possibly, there may be as many sorts of dysenteries as there are kinds of small pox, and other epidemics peculiar to different constitutions, and which may therefore require a different method of cure in some particulars. Nor should this

procedure of nature so much raise our wonder, since it is universally acknowledged, that the farther we penetrate into any of her works, the clearer proofs we have of the exceeding variety, and almost divine contrivance of her operations, which far surpass our comprehension. So that whoever has undertaken to fathom these matters and search into the multifarious operations of nature, will find himself disappointed in his expectation, and not succeed in the attempt; and, besides, if he be a judicious person, he will expect to be censured for making the most useful discoveries, for no other reason but because he was the first inventor.

6. It must be farther observed, that all epidemics, at their first appearance, as far as can be judged from their symptoms, seem to be of a more spirituous and subtile nature, than when they become older; and that the more they decline, the more gross and humourous they daily grow; for whatever kind of particles those are, which, being intimately mixed with the air, are esteemed to produce an epidemic constitution, it is reasonable to conclude that they are possessed of a greater power of acting at their first appearance, than when their energy is weakened. Thus in the infancy of the plague scarce a day passed, but some of those who were seized with it died suddenly in the streets, without having had any previous sickness; whereas, after it had continued for some time, it destroyed none, unless a fever and other symptoms had preceded; whence it clearly follows, that this disease, though it then took off fewer persons, was more violent and acute in the beginning than afterwards, when its influence was more extensive.*

7. In the like manner in the dysentery under consideration, all the symptoms were most severe in the beginning, though, with respect to the numbers affected thereby, it increased daily till it came to its height, when consequently more persons died than in the beginning; yet the symptoms were more violent then, than in the height, and much more so than in the decline thereof, and, all circumstances being alike, abundance more perished. To this may be added, that the longer it continued, the more humoural it seemed to be; for instance, the first autumn it attacked, several had no stools at all; but with respect to the severeness of the gripings, the violence of the fever, sudden decay of strength, and other symptoms, it much exceeded the dysenteries of the following years. And farther, the dysentery

* This remark accords with and confirms what was said in note p. 145. The same thing occurred in the yellow fever in Philadelphia in the year 1793. Most of the sudden deaths from it took place soon after the disease made its appearance.

accompanied with stools, which appeared first, seemed to be of a more spirituous and subtile nature than those that succeeded; for in the first dysentery the provocations to stool, and straining, were greater and more frequent, and the stools, especially the natural ones, less, both in point of quantity and frequency. But generally, as the disease proceeded on its course, the gripings abated, and the stools became more natural, and, at length, the epidemic constitution declining, the gripes were scarce felt, and the excrementitious or natural stools exceeded the mucous ones in number.*

8. To proceed, at length, to the curative indications: after having attentively considered the various symptoms attending this disease, I discovered it to be a fever of its own kind, turned inwards upon the intestines; by means of which the hot and sharp humours, that were contained in, and agitated the blood, were thrown off by the meseraic arteries upon these parts, whence blood was discharged by stool, the mouths of the vessels being opened by the impulse of the blood and humours flowing thereto. And by the violent and frequent efforts of the intestines to discharge the sharp humours that continually vellicate them, the mucous, wherewith their inside is naturally covered, is cast out more or less copiously at every stool. The indications of cure, therefore, seem to offer themselves plainly; nor indeed have I judged that I had any thing more to do, than 1. to make an immediate revulsion of these sharp humours by bleeding, and afterwards to cool the remainder; and 2. to evacuate them by purgatives.†

9. I therefore used the following method: upon being called in, I immediately directed bleeding in the arm, and gave an opiate the same evening, and the next morning my usual gentle purging potion.

* The dysentery in this section conforms to the law of epidemics which has been applied to the plague. The force of the disease in the bowels at first prostrates their action, so as to prevent the discharge of any of the contents of the bowels agreeably to the analogy of several other diseases. Perhaps this form of intestinal disease might be called a dry dysentery.

† In the whole of this section we behold our author regulating his practice by a principle directly opposed to his proposed system of nosology, and deriving great advantages from it in the treatment of the disease. He has very properly called the dysentery "a fever turned inwards upon the intestines." The same thing may be said of the cholera morbus, diarrhœa, and bilious cholic, when they occur in the summer and autumn. They are all inverted fevers, or as they have lately been called "intestinal states of fever."

Take of tamarinds, half an ounce; the leaves of sena, two drams; rhubarb, one dram and a half; boil them together in water sufficient to leave three ounces of strained liquor, in which dissolve manna and solutive syrup of roses, of each an ounce: mix them together for a purging potion, to be taken in the morning early.

I commonly prefer this draught to an electuary made with a small quantity of rhubarb; for though this root be exhibited to evacuate choler and acrimonious humours, yet unless a proper quantity of manna or solutive syrup of roses be mixed with it to quicken its operation, it avails little in curing a dysentery. And because it is certain that the gentlest purgatives do sometimes increase the gripings, and occasion a general depression and disorder of the spirits, by the adventitious commotion they raise in the blood and humours during their operation, I therefore commonly give an opiate earlier than is usual after purging, viz. at any hour in the afternoon, provided it seems to have done working, in order to quiet the disturbance I have raised. I repeat the purgative twice more, interposing a day between each potion, and exhibit an opiate after every purge, at the time above-mentioned; and direct it to be repeated morning and night on the intermediate days, in order to diminish the violence of the symptoms, and obtain a respite whilst I am employed in evacuating the peccant humour. The opiate I chiefly used was liquid laudanum, in the quantity of sixteen or eighteen drops in any cordial water for a dose.

10. After bleeding and purging once, I allowed some mild cardiac to be taken between whiles throughout the course of the disease, as plague water, compound scordium water, and the like, e. gr.

Take of the distilled waters of black cherries and strawberries, of each three ounces; plague water, compound scordium water, and small cinnamon water, of each an ounce; prepared pearl, one dram and half; fine sugar enough to sweeten it, and half a dram of damask rose water to give it an agreeable taste: mix all together for a julap, of which let the patient take four or five spoonfuls, when faint, or at pleasure.

But I used these chiefly in aged and phlegmatic persons, in order to raise their spirits in some measure, which are much depressed in this disease by the violence of the stools. Their drink was milk boiled with thrice its quantity of water, or the white decoction, as it is called, made of burnt hartshorn, and the crum of white bread, of each two ounces, boiled in three

pints of water to two, and afterwards sweetened with a sufficient quantity of fine sugar; and sometimes posset drink, or, where the loss of spirits required it, they drank, cold, for their common drink, a liquor made by boiling half a pint of canary, and a quart of spring water together. Their diet was sometimes panada, and sometimes broth made of lean mutton. I kept the aged more in bed, and allowed them a freer use of any cordial water they had been accustomed to, than was proper for children, or young persons. This method exceeded all those I had hitherto experienced in conquering this disease, which generally yielded to the third purge.

11. But if it proved so obstinate as not to give way to this treatment, I gave the former opiate every morning and evening, till it went quite off; and the more effectually to conquer it, I have ventured to give a larger dose of laudanum than that above specified, viz. twenty-five drops every eight hours, if the former dose proved too weak to stop the flux.* I likewise ordered a glyster made of half a pint of milk, and an ounce and half of Venice treacle, to be injected every day, which is indeed an admirable remedy in all kinds of loosenesses. Nor indeed have I hitherto found the least inconvenience from so frequent a repetition of opiates, (whatever mischief unexperienced persons groundlessly apprehend) though I have known several who have taken them every day, for some weeks running, when the disease proved inveterate. But it must be noted here, that when the flux amounts only to a simple looseness, omitting bleeding and strong purging, it will suffice to give half a dram of rhubarb, more or less in proportion to the strength of the patient, every morning, made into a bolus, with a sufficient quantity of diascordium, adding to it two drops of oil of cinnamon; and exhibiting an opiate the following evening, e. gr.

Take of small cinnamon water, one ounce; liquid laudanum, fourteen drops: mix them together.

In the mean time use the diet above specified in the cure of the dysentery, and inject the glysters there commended every day, if there is occasion.—But this by way of digression.

12. Now to evince the excellence of the method here delivered by a single instance, for I will not trouble the reader unnecessarily with many: The Rev. Mr. Belke, Chaplain to the Earl

* I before took notice of the practice of our author in giving opiates to induce ease and sleep in the early part of the evening. The exhibition of the same remedy early in the morning, in the languid state of the system, is often attended with the same salutary effects.

of St. Albans, being seized with a violent dysentery, during this constitution, sent for me to attend him, and was recovered by this method.

13. Children affected with this disease are to be treated in the same manner, but the quantity of blood to be taken away, and the doses both of the purgative and opiate, must be diminished in proportion to their age, so that, for instance, two drops of liquid laudanum is a sufficient dose for a child of a year old.

14. The liquid laudanum which I constantly use, as above intimated, is prepared in the following simple manner :

Take of Spanish wine, one pint ; opium, two ounces ; saffron, one ounce ; cinnamon and cloves reduced to powder, of each one dram ; infuse them together in a bath heat for two or three days, till the tincture becomes of a due consistence, and after straining it off, set it by for use.*

I do not indeed judge that this preparation is to be preferred to the solid laudanum of the shops on account of its virtues, but I gave it the preference for its more convenient form, and the greater certainty of dosing it, as it may be dropt into wine, a distilled water, or any other liquor. And here I cannot help mentioning with gratitude the goodness of the Supreme Being, who has supplied afflicted mankind with opiates for their relief : no other remedy being equally powerful to overcome a great number of diseases, or to eradicate them effectually. And notwithstanding there are persons who endeavour to persuade the credulous, that almost all the virtues of opiates in general, and of opium in particular, chiefly depend on their artful preparation of them, yet whoever puts it to the test of experience, and uses the simple juice, as frequently and as cautiously as any of its preparations, will certainly find very little difference between them, and be convinced, that the wonderful effects of opium are owing to the native goodness and excellency of the plant that affords it, and not to the dexterity of the artist. Moreover, this medicine is so necessary an instrument in the hands of a skilful person, that the art of physic would be defective and imperfect without it ; and whoever is thoroughly acquainted with its virtues, and the manner of using it, will perform greater things than might reasonably be expected from the use of any single medicine. For it must certainly argue unskilfulness, and a very slender knowledge of its virtues, to understand only to apply it

* The reader will perceive this tincture of opium to be stronger than the common laudanum of our shops, and attend to it in the prescriptions of that medicine by our author.

in order to procure sleep, ease pain, and check a looseness, since it may be suited to several other purposes, and is indeed a most excellent cardiac, not to say the only one hitherto discovered.

15. The dysentery required in general to be treated in this manner: but it must be observed, that this dysentery was of a more spirituous and subtile nature the first year it arose, than that of the subsequent years, and therefore yielded less readily to purgatives, than to those medicines that diluted and cooled the blood, as well as the sharp humours separated from it into the intestinal duct. And therefore, during the first autumn wherein the dry gripes and dysentery prevailed, I always used the following method with success for both, till colder weather succeeded, when I found it less effectual, even in the same year; and in the following years, when the disease had lost much of its subtilty, and proved more humoural, it availed not at all.

16. I proceeded in this manner: if the patient was young and feverish, I directed bleeding in the arm, and an hour or two after a large quantity of liquor to be taken, by way of diluting, according to the method I practised in the cholera morbus, except that here instead of chicken water, or posset drink, I substituted whey, to be drank cold in the same quantity as in that disease, but ordered the glysters to be injected warm, without the addition of sugar, or any other ingredient. I always found the gripes and bloody stools go off upon the discharge of the fourth glyster. This business being over, and all the whey evacuated, which, if the patient be expeditious, takes up only two or three hours, he was immediately put to bed, where he soon fell into a spontaneous sweat (occasioned by the mixture of the whey with the blood) which I ordered to be continued for twenty-four hours, but not at all provoked by medicine; allowing him nothing more than warm milk during this time, which he likewise used only for three or four days after he left his bed. If a relapse happens, either from rising too soon, or leaving off the milk diet too soon, the same process must be repeated. Now if this method be certain and speedy, no judicious person will reject it, because it does not come recommended with a pompous multiplicity of remedies.*

17. That a fever, attended with such symptoms as we have enumerated above, happens in those countries, and at those times, wherein the dysentery prevails epidemically, and that the method

* The facts related in this section show the utility of diluents in the dysentery. I have known an instance of its being suddenly cured by a draught of milk.

of cure here delivered is agreeable thereto, is still further confirmed by the testimony of Dr. Butler, who accompanied his excellency Henry Howard, ambassador from his Britannic Majesty to the Emperor of Morocco, in Africa: this gentleman assured me, that the dysentery raged at that time epidemically in that kingdom, as it always does; and that the fever accompanying it resembled the fever above described, which he treated according to our method with constant success, both at Tangiers and other places, whether the patients were Moors or Englishmen. Now neither of us was obliged to the other for this method, but being at so vast a distance, we both casually fell upon the same. And he also informed me, that the method of diluting plentifully in the dysentery succeeded admirably in those parts; and indeed I conceive it reasonable that this method should be attended with greater success in that hot climate than in England.

18. In the first autumn wherein this constitution prevailed, Dr. Cox being seized with a very acute dysentery, by my advice followed the above-mentioned method, whereby he was safely and expeditiously cured; for after the discharge of the fourth glyster, at which time I happened to be with him, the gripes and bloody stools vanished, and there was occasion for nothing further to complete the cure, except keeping his bed for the time above specified, and using a milk diet. And this gentleman afterwards recovered several by the same method at the close of autumn; but the following year, making trial of it again, he found it fail him.*

19. We have already taken notice, that when this disease runs on to a great length, it often affects all the intestines gradually downwards, till at length it fixes in the rectum, with a continual inclination to go to stool, whereby only a mucus tinged with blood is discharged. In this case, I conceive it would be useless to attempt the cure, either 1. by any of the above-mentioned methods; 2. by detergent, agglutinant, or astringent glysters, which are ordinarily injected according to the different states of the supposed ulcer; or 3. by fomentations, baths, fumigations, and suppositories, suited to the same purposes. For it is apparent that this

* This fact is highly interesting, and accords with modern observation. A physician who had practiced medicine nearly for half a century in Philadelphia, declared he had never seen the dysentery appear with the same symptoms, nor yield to exactly the same remedies in any *two* successive years. How erroneous therefore must that practice be which is influenced by the name of this disease! Bleeding, purging, vomits, sweating medicines and opiates all do good or harm according as they are regulated, or not, by its existing character. This should be studied anew by a physician every season.

disorder does not proceed from an ulcer of the rectum, but rather from this, that in proportion as the intestines recover their tone, they deposit the remains of the morbid matter in this gut, which being continually irritated thereby discharges part of the mucous matter at every stool wherewith the inside of the intestines is naturally covered. For this reason the part affected must be strengthened to expel the small remains of the morbid matter, as the other intestines have already done: and this purpose is only answered by such medicines as strengthen the body in general; for the application of any kind of tonic to the part affected, being incommensurate, will rather debilitate than strengthen it. The disease therefore must be borne till the strength can be recovered by a restorative diet, and the free use of some particularly grateful cordial liquor; and then the tenesmus will go off spontaneously in the same degree as the strength returns.

20. It sometimes happens, though very seldom, that a dysentery ill treated in the beginning afflicts a particular person for several years, the whole mass of blood having obtained a kind of dysenteric disposition, whence the bowels are continually supplied with hot and acrimonious humours, whilst the patient in the mean time continues pretty capable of following his business. I met with an instance of this lately in a woman who was perpetually afflicted with this disease during the three last years of this constitution; and as she had tried abundance of medicines before applying to me, omitting other remedies, I only directed bleeding, and was encouraged to repeat it frequently at considerable intervals, as well from the colour of the blood, which resembled that of pleuritics, as from the great relief the patient obtained by every bleeding; by which means she at length recovered her former health.*

21. Before I finish this particular it is to be remarked, viz. that though in those years wherein the dysentery raged so epidemically, the above-mentioned evacuations were absolutely necessary to be made before having recourse to laudanum, yet in any constitution, which has a less tendency to this disease, they may safely be omitted, and the cure completed by the shorter method, namely, by exhibiting laudanum alone in the manner already delivered. And let this suffice for the dysentery.

* It is very common to suppose that diseases which assume a chronic form put off their inflammatory nature, but this is not always the case. The pulmonary consumption (which is a chronic pneumonia) the chronic rheumatism, and the chronic diarrhoea as well as the chronic dysentery, often require bleeding, and are relieved, or cured by no other remedy.

CHAP. IV.

OF THE CONTINUED FEVER OF PART OF THE YEAR 1669, AND
THE YEARS 1670, 1671, 1672.

1. AT the same time the dysentery raged a fever arose, which much resembled, and often accompanied this disease : it not only attacked such as were afflicted with the dysentery, but those likewise who remained wholly free from it, unless that sometimes, though very rarely, the patient had slight gripings, sometimes with and at other times without a looseness ; for it always had the same apparent causes with the dysentery, and was attended also with the same symptoms as the fevers of those who had the dysentery ; so that if we except the evacuation by stool in the dysentery, and the symptoms thereon necessarily depending, this fever should seem to be wholly of the same nature with that disease. And from henceforward, through the course of this constitution, it underwent the same change of symptoms with respect to its increase, state, and declension, as generally happened in the dysentery : I call it, therefore, the dysenteric fever.

2. This fever, as we have said, sometimes began 1. with mild gripings, especially in the first years of its appearance, or they came on afterwards, but frequently none at all attended ; 2. the sweats, which, as we observed above, were very copious in the fever of the preceding constitution, were unfrequent and moderate in this ; but 3. the pain in the head was more violent here ; 4. the tongue, though it was white and moist as in the other fever, was covered beside with a thick fur ; 5. this fever seldom went off by spitting, as the other usually did ; 6. it was more subject to generate aphthæ in the declension, than either the former, or any other fever I had hitherto met with : for both this and the fever that succeeded the dysentery, in the decline, generally deposited a vitiated and acrid matter in the mouth and throat, whence this symptom arose in such as had been much exhausted by the inveteracy of the disease, and further debilitated by an over-hot regimen.* In the same manner also were those aphthæ generated, which happened at any time in stubborn dysenteries,

* The aphthæ in this case, were nature's feeble substitutes for a salivation. All the febrile diseases of the throat appear to be insufficient efforts of the system to relieve itself, by a discharge from the mouth. The utility of mercury as a sialogue in those fevers seems to depend upon its supplying the deficiency of strength in the operations of nature.

joined with a fever ; especially if, besides using an hot regimen, the discharge by stools had been stopped by astringents, before the cause or fuel of the disease was expelled the veins by bleeding and purging.

3. These were the most certain signs of this fever, for the other symptoms varied every year according to the manifest qualities of the air, at certain times, and also according to the progress and different states of the dysentery. But that these particulars may be better understood, since by this contrivance especially nature manifests her superior power in the production of epidemic diseases, we shall make a closer scrutiny into this matter. It should therefore be observed that, though the manifest qualities of the air may not make so strong an impression upon a particular constitution, as to be the productive causes of the epidemic diseases which are properly referred thereto ; as these arise from some latent and inexplicable disposition thereof, yet they have a power over them for a time, and hence epidemics are admitted or excluded, as the manifest qualities of the air favour or oppose them. But the universal constitution remains precisely the same, whether these promote, or in some measure retard it.

4. Hence also it is, that when various epidemics happen in the same constitution, some particular disease shews itself chiefly in the season assigned it by the sensible qualities of the air ; and at length yields to some other epidemic, which the different qualities of the subsequent season occasion. Hence it happens that the stationary fever, belonging to the epidemic of that year, of whatever kind it be, rages most violently in July, at the beginning whereof it attacks abundance of persons at once, but upon the approach of autumn abates considerably, and yields to the then reigning grand epidemic, which gives its name to the year ; as every year sufficiently shews. For the body being heated by the preceding summer, the fevers, which are peculiar to the general constitution, easily attack at that time, but upon the coming in of autumn the grand epidemic again prevails, and these go off entirely.

5. But as the fevers arising in this month should be referred to the sensible qualities of the air, so also the various symptoms, which are quite foreign to their nature, in as much as they depend upon such a general constitution, and are derived from the manifest qualities of the air happening in the same month. Hence it is that in those years wherein these fevers seize abundance of persons in this month, they are attended with a variety of new symptoms besides those which are peculiar to them, as they proceed from the general constitution ; and yet they still continue the same, though by the unskilful they are esteemed every year as new fevers, on account of the diversity of their concomitants. But these more peculiar symptoms continue only a few weeks, and the re-

maining part of the year only the proper symptoms appear; which accompany them as stationary fevers of such a particular constitution.

6. This clearly appeared in other fevers, but chiefly in this dysenteric fever of July 1671 and 1672; the former of which at the decline was constantly attended with extreme sickness, a vomiting of green choler, and a great tendency to a looseness; and the latter with a pain in the muscular parts of the body, especially in the limbs, resembling a rheumatism, and also an inflammation of the throat, but milder than in a quinsey: yet both these met in the same specific fever, and both required the same treatment, for they differed only with respect to the sensible qualities of the air that prevailed at the time when these symptoms arose. But the sudden and unexpected rise of these fevers about the beginning of this month, and the new appearance of their peculiar symptoms for a time, though they neither differed in kind, nor in the method of cure required, for the fever that run through the whole year: these particulars I say, clearly shews how difficult it is universally to ascertain the species of a fever from its concomitant sign; though it may be sufficiently known by carefully attending to other diseases arising in the same year, and also to the peculiar symptoms of evacuation. A consideration likewise of the method or medicines to which it readily yields, greatly conduces towards discovering the species of the fever.

7. As to the other differences of the concomitant symptoms of stationary fevers, they only regard the different times of the constitution; and upon this account are either violent or moderate as the symptoms of other epidemics,* to which they belong, are either increased or mitigated.

8. But to resume our subject; this fever, which, as we have already observed, began with the dysentery, prevailed equally with it, except that it went off for a little time, whilst the other epidemics of these years prevailed; yet it continued throughout this constitution, sometimes attacking more, and at others fewer persons.

9. With respect to the cure of this fever; having observed, as we said before, that the symptoms of that fever which affected abundance of those who had the dysentery, were manifestly the same with those which accompanied the solitary fevers of the current year, I judge it proper to attempt the cure by imitating in some measure the evacuation, which nature commonly uses in order to expel the sharp and corrosive matter, occasioning both the dysentery and the fever succeeding thereupon. And therefore I endeavour to cure this fever by the same method, both as to

* This remark accords with modern experience.

bleeding and repeated purging, which we have deduced more at large in treating of the cure of the dysentery ; only I found that opiates, exhibited on the intermediate days, not only did no service, but proved detrimental, by detaining the matter which ought to have been discharged by purging, which happened otherwise in the dysentery. On the first days of the illness the patient lived on water gruel, barley broth, panada, and the like for diet, and drank warm small beer for his common drink ; but after purging once or twice, it was needless to forbid chicken and the like food of easy digestion ; as this method of cure by purging indulges the use of those things, which cannot be allowed if a different one be practised.* The third purge, interposing a day between each, generally terminates the disease, but sometimes further purging was required. When the patient continued weak after the fever was gone off, and recovered slowly, which often happened in hysteric women, I endeavoured to strengthen them and repair the loss of spirits by giving a small dose of laudanum ; but I seldom repeated this medicine, and never prescribed it till two or three days after the last purge. But nothing proved so effectual to recover the strength, and cheer the spirits, as the free use of the air immediately after the fever vanished.

10. I received the first hint of this method of practice from the following case : In the beginning of this constitution, whilst I was solicitously endeavouring to discover the nature of this new fever, I was called to a young woman who was seized therewith, and had also a very violent pain in the forepart of the head, and the other symptoms, which, as we said, accompanied the dysenteric fever. Upon inquiring in what manner, and when the fever first seized her, she told me that she had the epidemic dysentery a fortnight before, which prevailed very generally at that time, and that as soon as it went off, either spontaneously, or by the use of medicine, this fever with the pain in the head succeeded. Hence I conceived it would be proper, for both, to substitute another similar evacuation in place of the dysentery, upon the stoppage of which the fever arose ; and accordingly procured it by the method above recommended, to which indeed the fevers of this constitution readily yielded. For I was ever of opinion that success alone is not sufficient proof of the excellency of a method of cure in acute diseases, since some are recovered by the imprudent procedure of unskilful women ; but that there was further required, that the distemper should be so easily conquered,

* Where purging is used as a remedy in acute or chronic diseases, it renders less strictness necessary in the quantity of diet taken, and thus disposes patients more readily to submit to the long continuance of a disagreeable remedy.

and yield, as it were, conformably to its own nature.—But this by the way.

11. In 1672, at the beginning of June, I was sent for by the Earl of Salisbury, who had this fever, accompanied with gripings and costiveness; and he was recovered by the method proposed, which was the only one I had occasion for whilst this fever continued.

12. In young persons, and sometimes in those who were a little more advanced in years, this fever at times seized the head, so that they became delirious, yet without raving, as those who grow light-headed in other fevers do; but were affected with a kind of stupor, nearly resembling a carus. This symptom chiefly happened in such as unadvisedly exerted their utmost endeavours to promote sweat at the beginning of the disease. I was not so happy at that time as to be able to relieve such as were attacked with this symptom, though I left no method untried, and had recourse to all the medicines hitherto noted for this purpose. And let these particulars suffice for the fever of this constitution.

CHAP. V.

OF THE MEASLES OF 1670.

1. IN the beginning of January, 1670, the measles appeared as is usual, and increased daily till the approach of the vernal equinox, when it came to its height; after which it abated in the same gradual manner, and went quite off in July following. I intend to deliver an accurate history of this sort, so far as I was then enabled to observe it, because it seemed to be the most perfect in its kind of all those I have hitherto met with.

2. This disease arises and terminates at the times above specified. It chiefly attacks children, and especially all those who live under the same roof. 1. It comes on with a chilness, shivering, and an inequality of heat and cold, which succeeded alternately during the first day; 2. the second day these terminate in a perfect fever, attended with 3. vehement sickness; 4. thirst; 5. loss of appetite; 6. the tongue white, but not dry; 7. a slight cough; 8. heaviness of the head and eyes, with continual drowsiness; 9. an humour also generally distils from the nose and eyes, and this effusion of tears is a most certain sign of the approach of the measles; whereto must be added, as a no less certain sign, 10. that though this disease mostly shews itself in the face, by a kind

of eruptions, yet, instead of these, large red spots, not rising above the surface of the skin, rather appear in the breast; 11. the patient sneezes as if he had taken cold; 12. the eyelids swell a little before the eruption; 13. he vomits; 14. but is more frequently affected with a looseness, attended with greenish stools: but this happens chiefly in children during dentition, who are also more fretful in this distemper than ordinary. The symptoms usually grow more violent till the fourth day, at which time generally little red spots, like flea-bites, begin to appear in the forehead and other parts of the face, which being increased in number and bigness, run together, and form large red spots in the face, of different figures; but sometimes the eruption is deferred till the fifth day. These red spots are composed of small red pimples, seated near each other, and rising a little higher than the surface of the skin, so that they may be felt upon pressing them lightly with the finger, though they can scarce be seen. From the face, where only they first appear, these spots extend by degrees to the breast, belly, thighs, and legs; but they affect the trunk and limbs with a redness only, without perceptibly rising above the skin.

3. The symptoms do not abate here upon the eruptions, as in the small pox; yet I never found the vomiting continue afterwards, but the cough and fever grow more violent, the difficulty of breathing, the weakness of, and defluxion upon the eyes, constant drowsiness, and loss of appetite, persisting in their former state. On the sixth day, or thereabouts, the eruptions begin to dry, and the skin separates, whence the forehead and face grow rough, but in the other parts of the body the spots appear very large and red. About the eighth day those in the face vanish, and very few appear in the rest of the body; but on the ninth day they disappear entirely, and the face, limbs, and sometimes the whole body, seem as if they were sprinkled over with bran, the particles of the broken skin being raised up a little, and scarce cohering, so that as the disease is going off, they fall from all parts of the body like scales.

4. The measles therefore generally disappear on the eighth day, when the vulgar, deceived by the term of the duration of the small pox, affirm, that the eruptions are struck in; though in reality they have run through the course assigned them by nature, and they suspect that the symptoms which succeed upon their going off, are occasioned by their striking in too soon. For it is observable that the fever and difficulty of breathing increase at this time, and the cough becomes more troublesome, so that the patient can get no rest in the day, and very little in the night. Children chiefly are subject to this bad symptom, which comes on at the declension of the disease, especially if an heating regimen, or hot medicines, have been used to promote the eruption; whence arises a peripneumony, which destroys greater numbers than the

small pox or any of its concomitant symptoms ; yet notwithstanding, if this disease be skilfully treated, it is in no ways dangerous. These bad symptoms are likewise often followed by a looseness, which either immediately succeeds the disease, or continues several weeks after the disease and all its symptoms are gone off, with greater danger to the patient, by reason of the continual waste of spirits hence arising. And sometimes also, after using an exceeding hot regimen, the eruptions turn livid, and then black ; but this happens only in grown persons, who are irrecoverably lost upon the first appearance of the blackness, unless they be immediately relieved by bleeding and a cooler regimen.

5. As the measles in its nature nearly resembles the small pox, so does it likewise agree pretty much therewith in the method of cure which it requires : hot medicines and a hot regimen are very dangerous ; though they are frequently used by unskilful nurses to drive the disease from the heart. The following method succeeded best with me. I confined the patient to his bed for only two or three days after the eruption, that the blood might gently breathe out the inflamed and noxious particles, that are easily separable, through the pores, in a manner suitable to the nature of the disease ; and allowed no more clothes nor a larger fire than he accustomed himself to when in health. I forbid all flesh meats, and permitted water gruel, barley broth, and the like, and sometimes a roast apple, for diet ; and for drink, either small beer, or milk boiled with thrice its quantity of water. To relieve the cough, which almost always attends this disease, I ordered a draught of some pectoral decoction to be taken between whiles, with a proper linctus. But I chiefly observed to give diacodium every night, the distemper throughout, e. gr.

Take of the pectoral decoction, a pint and half ; syrup of violets and maiden-hair, each an ounce and half ; mix them together for an apozem, to be taken in the quantity of three or four ounces, three or four times a day.

Take of oil of sweet almonds, two ounces ; syrup of violets and maiden-hair, each an ounce ; fine sugar enough to make them into a linctus, to be taken often in a small quantity, especially when the cough is troublesome.

Take of black-cherry water, three ounces ; syrup of white poppies, an ounce : mix them together for a draught, to be taken every night.

In children the dose of the pectorals and opiate must be diminished in proportion to their age.

6. This method seldom fails of curing, besides being preventive of every other symptom, which is not the necessary and un-

avoidable attendant of the disease: the cough is the most troublesome one, which, however, is nothing dangerous till the disease be gone off; after which, if it should continue a week or a fortnight, it may be easily cured by the use of the open air, along with proper pectorals; and indeed it generally abates by degrees spontaneously, and at length ceases *

7. But, if by using cardiacs, and too hot a regimen after the departure of the disease, the patient's life be endangered (which is a very common thing) by the violent fever, difficulty of breathing, and other symptoms that usually afflict such as have a peripneumony, I have with great success ordered even the tenderest infants to be blooded in the arm, in such quantity as their age and strength indicated. And sometimes also, when the disease has been urgent, I have not feared to repeat the operation; and in reality by bleeding, I have snatched abundance of children from imminent death. This disorder attacks children upon the departure of the measles, and proves so fatal, that it may justly be esteemed one of the principal ministers of death, destroying greater numbers than the small pox; nor have I hitherto discovered any other certain method of conquering it. Bleeding also cures the looseness, which, as we said, succeeds the measles; for as it arises from the effluvia of the inflamed blood, flowing into the intestines (as is likewise usual in the pleurisy, peripneumony, and other diseases caused by inflammation) and irritating them to discharge their contents, this remedy alone will relieve; as it makes a revulsion of those sharp humours, and likewise reduces the blood to a due temper.

8. Nor need any one be surprised at my bleeding young children, since, as far as I have hitherto been able to observe, it may be as safely performed in them as in grown persons. And indeed it is so necessary in the peripneumonic fever above-mentioned, and in some other disorders to which children are subject, that there is no curing them without it. For instance: how are children to be relieved without bleeding during dentition, in the convulsions happening to them in the ninth or tenth month, accompanied with a swelling and pain in the gums, whence the nerves are compressed and irritated, and the fits also proceed? In this case bleeding only is vastly preferable to all the celebrated specifics yet known: some of which prove detrimental by their

* Why was bleeding omitted in the beginning of this disease? The loss of blood in its first stage would probably have prevented the pneumony which rendered it necessary in its close. It has been remarked, that the measles have been much less fatal since the more liberal use of the lancet in their treatment, than in former years, and that they are now rarely followed by pneumony or consumption.

adventitious heat, and whilst they are supposed to cure the disorder by some occult quality, increase it by their manifest heat, and destroy the patient. Not to mention at present the great relief which bleeding affords in the whooping cough in children, in which it far exceeds all kinds of pectorals.*

9. What has been said of the cure of those disorders which immediately succeed the measles, may sometimes also hold good when the disease is at the height, provided the symptoms be occasioned by an artificial heat, if I may be allowed to use the expression. In 1670 I attended a maid-servant of Lady Anne Barrington, who had the measles, joined with a fever, difficulty of breathing, purple spots over the whole body,† and many other dangerous symptoms, all which I ascribed to the hot regimen and medicines which had been too freely used. I directed bleeding in the arm, and prescribed a cooling pectoral ptisan to be taken often, by means of which, and a more cooling regimen, the purple spots and all the other symptoms went off by degrees.

10. This disease, as above-mentioned, began in January, and increased daily till the approach of the vernal equinox, after which it decreased gradually, and totally disappeared in July following, without returning again during the course of the years wherein this constitution prevailed, except that in the following spring it appeared in a very few places. And let this suffice for the measles.

* In favour of bleeding young children, it may be added, that it is *more* necessary in their diseases, than under equal circumstances, in those of adults, and for the following reasons, 1st. we are deprived in them of one of the substitutes for bleeding in adults—that is, sweating, which is always effected, or kept up with difficulty in children. 2dly. In the diseases of young children which affect the lungs and trachœa, relief from expectoration cannot so easily be obtained as in adults, from their inability to spit out the morbid excretions of those organs, *and* 3dly. it is more difficult to administer those medicines to them, which supply in some instances the use of bleeding in adults.

† Petechiæ, and many of the other symptoms of what are improperly called putrid fevers, are the effects of the original force of the remote cause of the disease acting upon the blood vessels, or of the improper use of heating medicines. In the recent state of petechiæ, when there is considerable action in the blood vessels, bleeding often removes them sooner than any other remedy, by bringing the fever which induces them back to the common inflammatory grade.

CHAP. VI.

OF THE ANOMALOUS OR IRREGULAR SMALL POX OF THE YEARS
1670, 1671, AND 1672.

1. THE measles, as we said before, introduced a different sort of small pox from that of the preceding constitution. It arose much about the same time as the measles did, namely, in the beginning of January, 1670, and though it was not so epidemic, it notwithstanding accompanied that disease whilst it prevailed, and continued after it went off. as long as this constitution lasted. Nevertheless it yielded to the dysentery which raged in autumn;* a season peculiarly disposed to favour it; but in the winter this kind of small pox returned again, the dysentery being overcome by the cold, which is an enemy to it. In this order did these distempers succeed each other through the whole term of years of this constitution, except that in the last autumn it prevailed, namely, in 1672, the constitution being then in its decline, and slowly promoting the dysentery, which at that time was also declining. The small pox, contrary to custom, raged also at the same time, and prevailed so equally with the dysentery, that it was not easy to ascertain which of the two disease attacked greater numbers; but, as far as I could conjecture, the dysentery should seem to have been chiefly prevalent. Moreover, this sort of small pox also, like other epidemics, was very violent in the beginning, and increased daily till it came to the height, after which it decreased by degrees, both with respect to the violence of the symptoms, and the numbers attacked thereby.

2. But to set down its particular signs. I was much surprised upon the rise of this small pox, when I found that it differed in several considerable symptoms from the kind produced by the preceding constitution, which I had formerly observed with particular attention. At present I shall only treat of the symptoms that differ from those of the other kinds, without taking notice of those it had in common with that sort of small pox so fully described in the foregoing sheets.

3. The distinct kind of this small pox differed from the com-

* Few diseases resist the influence of autumnal fevers, whether they appear in the blood vessels or bowels. Where other diseases do not retire before them, they are generally obliged to do them homage, by wearing a part of their autumnal livery.

mon distinct one of the preceding constitution, only in the following symptoms : 1. The eruptions generally came out on the third day, which indeed is usual in the confluent sort, whereas in the distinct kind of the former constitution they appeared not before the fourth day ; 2. they did not grow so big in the course of the disease as those of that kind, but 3. were more inflamed, and in the declension, after the suppuration, frequently looked black ; 4. sometimes, but very rarely, a spitting happened, as in the confluent kind, though the eruptions were very few : whence it appears that the small pox of this constitution greatly resembled the confluent kind, and was attended with a more violent inflammation than is usual in the distinct.

4. But the confluent sort of this constitution differed from those I had observed in other years in several particulars, which I shall here enumerate. 1. The eruptions sometimes appeared on the second day, at others on the third, in form of an uniform reddish swelling, covering the whole face, and thicker than an erysipelas, nor could any spaces be easily perceived between the eruptions ; 2. the rest of the body appeared to be overspread with an almost infinite number of red, inflamed pustules, joined together in one ; 3. in the intermediate spaces whereof, especially in the thighs, little bladders arose, like those occasioned by burns, full of limpid serum, which ran plentifully from them, upon the bursting of the skin ; the flesh underneath appearing black, and as if it were gangrened. But this dreadful symptom happened very rarely, and only in the first month wherein this kind prevailed.

5. Amongst the rest who were thus grievously affected at this time, I was sent for, in the beginning of January, 1670, by Mr. Collins, a brewer, in St. Giles's parish, to his son, an infant, who had bladders on his thighs as large as a walnut, and full of a transparent serum, which afterwards bursting, the flesh underneath appeared as it were quite mortified, and he died soon after ; as did all those I had seen attacked with this dreadful symptom.

6. (4.) About the eleventh day a white shining pellicle extended itself over the reddish swelling in several parts of the face, and by degrees over the whole ; 5. soon after it discharged a shining crusty matter, not indeed of a yellow or brown colour (both which were observable in the other kind of small pox) but of a deep red, like congealed blood, which, as the pustules ripened, grew every day blacker, till at length the whole face appeared as black as soot ; 6. and whereas in the other kind of confluent small pox the patient was in the most danger on the eleventh day, which put an end to the lives of the greatest part of those that died ; in this sort, unless an extreme hot regimen destroyed him in a shorter time, he generally lived till the four-

teenth, and sometimes to the seventeenth day, after which the danger was over. 7. But it must be noted, that those who had the fatal bladders with the mortification, which happened to some in the first month wherein this kind arose, as above related, died in a few days after the eruption.

7. 8. The fever and all the other symptoms, which either proceeded or accompanied this sort of the small pox, were more violent than in the foregoing kind, and it had manifest signs of greater inflammation; 9. the patient was more subject to a spitting; 10. the pustules were considerably more inflamed, and much smaller, so that it was difficult upon their first appearance to distinguish them from an erysipelas, or the measles, unless that the latter certainly manifested itself by the day of the eruption, and other symptoms, above mentioned in the history of that disease; 11. the scales remained a long time after the eruptions vanished, and left more unseemly scars behind them. It is well worth noting, that throughout the whole course of years which this constitution lasted, wherein the dysentery raged so epidemically, the small pox, when exasperated by an immoderate hot regimen, sometimes terminated in a dysentery; as I more than once observed.*

8. But it is proper to observe, that this small pox was not attended with such fatal symptoms during the whole time of its continuance, for, after having prevailed two years, it began to grow milder in the third year, namely, in 1672, and the eruptions having lost their blackness, grew by degrees yellow, like a honey comb, which is peculiar to the regular small pox, during the suppuration of the pustules, so that in the last year of this constitution it proved very mild and gentle, considering its kind. Nevertheless it is manifestly to be referred to a quite different kind, on account 1. of the remarkable smallness of the pustules, 2. the tendency to a salivation, and 3. other concomitant symptoms.

9. Though our ignorance of the causes of every specific difference be such, as makes it impossible for us to comprehend wherein this small pox differs from those produced by the other constitution; yet to me it plainly appears, from the several concomitants, that this sort was attended with greater inflammation than the other, and therefore that the whole of the cure consists in giving a greater check to the violent ebullition of the blood. And this is chiefly effected by a temperate regimen, after exhi-

* See! in this section a proof of the truth of the preceding note. Such was the predominance of the dysentery as an epidemic, that it imposed its most characteristic symptom upon the small pox.

biting opiates as above directed; e. gr. allowing the free use of some liquor that is not heating, but will rather immediately abate the violent heat, which fatigues and parches the patient more in this than in any other disease, especially during the suppuration of the pustules. The white decoction, made of bread and a little burnt hartshorn, boiled in a large proportion of water, and sweetened with sugar, is beneficial here; but milk boiled with thrice its quantity of water is generally a more grateful liquor, and better answers the end of cooling; drinking plentifully is not only proper to diminish the extreme heat, which chiefly prevails during the secondary fever, but also promotes the salivation, and keeps it up longer than it could be continued, if the patient were over heated. And farther, I have often observed, that cooling liquors, drank plentifully, have succeeded so well, that by means thereof the small pox, which appeared at the beginning with the worst signs of the confluent kind, hath in the course of the disease been rendered distinct; and the eruptions which, as they ripened, would otherwise have first discharged a red, and soon after a black matter, have looked very yellow, and, instead of being inflamed and very small, proved of a mild and good kind.

10. Nor does the menstrual discharge, which frequently happens to women in this disease, at all forbid, but rather encourage the free use of these liquors, especially if it comes at an unusual time. For all the danger here is, lest the blood, being too much attenuated by the excessive heat of the disease, should break through the vessels wherever it can find a passage, especially when unskilful nurses add oil to the flame, by using a hot regimen, and a decoction of hartshorn, with flowers of marigold, &c. Now whatever greatly dilutes and cools the blood, inasmuch as it checks this flux, does necessarily, though not immediately, tend to preserve the eruptions, and the swelling of the face and hands in their due state; whereas contrariwise, heating remedies, notwithstanding they may seem better suited to this purpose, yet as they promote this discharge, they fall short of answering the end. And I doubt not but abundance of women have perished by the mistake of such as had the care of them, who apprehending the sinking of the eruptions from this discharge, have endeavoured to prevent it by a hot regimen and cardiacs, by which means the patient hath been certainly destroyed; though at the same time they solicitously endeavoured to stop the hæmorrhage, and keep the eruptions and swelling at the proper height, by mixing different astringents with the cardiacs.

11. I lately attended a lady, who had this dangerous black small pox, and though I forbade every thing at the beginning that might agitate the blood, yet as she was of a very sanguine complexion, in the flower of her age, and of a lively disposition,

and the weather at the same time very warm, she was suddenly seized, on the third day after the eruption, with so copious a menstrual discharge, at an unusual time, that the women about her suspected she had miscarried. Though this symptom was very urgent for several days, yet I did not therefore judge that the use of the milk and water was to be discontinued, but rather esteemed it more necessary, and to be drank plentifully now, and likewise through the whole course of the disease, particularly upon the coming on of the suppuratory fever. At this time Dr. Millington, formerly my fellow collegiate, and now my intimate friend, was joined with me, who observing that every thing went on very well, according to the nature of the disease, readily consented that our patient should persist in drinking freely of the liquor above mentioned, which she often declared was particularly grateful to her, promoting the spitting, and both cooled and refreshed her. But when the face began to harden, and to be crusted over, we apprehended our patient would be injured by the putrid vapours proceeding from the purulent matter of the eruptions, which had a very fetid smell in this worst kind of small pox, and therefore directed a few spoonfuls of mulled sack to be taken once a day, or as often as she perceived any sickness at her stomach. And by the use of these few things, along with a quieting draught every night, she recovered without having been seized with a delirium, or any other very dangerous symptom, except the hæmorrhage above mentioned. The face and hands swelled sufficiently, the eruptions were as large as this sort of small pox would permit, and the salivation was easy and copious to the end; and, lastly, though the eruptions in the face seemed blackish, whilst they ripened, yet they were yellow in most other parts.

12. But how much soever the kind of small pox, peculiar to this constitution, exceeded those of other constitutions in point of heat and inflammation, yet when the eruptions were distinct, or few, experience shewed it to be needless to drink so copiously of the above mentioned liquors. But it sufficed if the patient drank small beer enough to quench his thirst, and supped water gruel and panada, and sometimes eat a roast apple, and (if he exceeded fourteen) took a dose of syrup of white poppies, when sick, or delirious for want of rest; and I did nothing more when the pustules were few, except keeping the patient in bed. By this method alone my son William was, by the blessing of God, recovered in this distinct sort of small pox, in December 1670.

13. I shall add nothing more relating to the small pox of this constitution, as having treated of the other kind at large, from which the present only differs by being of a hotter and more inflammatory nature; whence it follows that more care was re-

quired, in order to diminish the considerable heat which was so natural to it, and so certainly threatened the destruction of the patient.

CHAP. VII.

OF THE BILIOUS COLIC OF THE YEARS 1670, 1671, AND 1672.

1. DURING all the years of this constitution, the blood was considerably disposed to deposite hot and choleric humours in the intestines, whence the bilious colic prevailed more than ordinary; which disease, though it should be reckoned amongst those of the chronic kind, and of course foreign to my purpose, yet as it depended on the same indisposition of the blood at that time, from which most of the then prevailing epidemics arose, it should for this reason be treated of here; but especially because I perceived that the same febrile symptoms preceded it, which usually preceded the reigning dysentery of those times. And sometimes also this distemper, as above remarked, succeeded the dysentery, when it had continued a long time, and seemed to be going off. But when it did not succeed an inveterate dysentery, it generally arose from a fever, which afflicted the patient only for a few hours, and ordinarily terminated in this disease.*

2. It chiefly attacked young persons of a warm and bilious constitution, especially in the summer season. 1. A violent and intolerable pain of the bowels attends it, which sometimes seem to be tied together, and at others closely pursed up, and bored through, as it were, with a sharp-pointed instrument: the pain abates between whiles, but immediately returns again. 2. In the beginning the pain is not so certainly fixed in one place, as in the progress of the disorder; 3. the vomiting is less frequent, and the belly more easily moved by purgatives; 4. but as the pain increases, it becomes more obstinately fixed in one place; 5. frequent

* Here we see a striking instance of the unity of autumnal diseases. The symptoms by which the bilious colic may be distinguished from other forms of that disease are accurately marked in the succeeding section. In the middle States it occurs chiefly in the autumn, and is generally preceded with the same chillness and other symptoms which precede the autumnal fever.

vomitings succeed, and the belly is more costive, till at length, 6. the excessive violence of the symptoms occasions a total inversion of the peristaltic motion of the guts (unless the patient be relieved sooner) and consequently an iliac passion, in which distemper all cathartics immediately become emetic, and glysters likewise, and together with the fæces, are forced up the intestinal tube, and ejected by vomit. If the matter thus thrown up be quite pure, it is sometimes green, sometimes yellow, and sometimes of an uncommon colour.

3. As all the signs of this disease clearly shew it to arise from some sharp humour, or vapour thrown off from the blood into the intestines; I judge the primary indications of cure, 1. to consist in evacuating both the antecedent humour in the veins, and that contained in the intestines; and the next, 2. in checking the great tendency of the humours to the parts affected, and easing the intolerable pain, by exhibiting opiates.

4. In order hereto I bleed freely in the arm, if no blood has been taken away before, and in three or four hours after administer an opiate. The next day I direct some lenient purgative, and order it to be repeated a second time, at a day's interval, and sometimes a third time, according as the remains of the humour seem to be more or less in quantity. But it must be observed that, if this disease proceeds, either from a surfeit of fruit, or any other kind of aliment of difficult digestion, whence depraved and corrupt juices are first received into the blood, and thence separated into the intestines; in these cases the stomach must first be well cleaned by drinking posset drink plentifully, and vomiting it up again, which being over, an opiate must be given, and a vein opened the next day, and, in other particulars, the process above delivered is to be followed.

5. But when the violence of the pain, and the vomiting, whence the intestines are in a manner inverted, do not yield to purgatives, they must be made stronger; for it avails not to exhibit a gentle cathartic, unless perhaps the patient be easy to work upon, which should be carefully inquired into, because such a medicine, being too weak to make its way through the intestinal tube, does more mischief, the vomiting and pain being increased by its languid and ineffectual motion. A lenitive purging potion, made of an infusion of tamarinds, sena and rhubarb, in which manna and syrup of roses may be dissolved, is to be preferred to other purges, because it disturbs and agitates the juices less. But if this cannot be retained in the stomach, either 1. because the patient has an aversion to a liquid medicine, or 2. by reason of the vomiting, recourse must necessarily be had to pills, amongst which I esteem pil. cochiae most, because it operates best in this and most other cases. But where either 1. through the weakness of

the stomach, or 2. the vomiting, pills cannot be retained, I first prescribe an opiate, and in a few hours after a purgative, at such a proper interval, for instance, that the latter may not be overcome, and rendered ineffectual, but continue long enough in the stomach to communicate its purging quality thereto, so that it may at length operate immediately after the virtue of the opiate is gone off. However, if the case will admit, it is best to give the purge a considerable time after the opiate, because it operates with difficulty, even twelve hours after the exhibition of the opiates.

6. But because a purge always increases the pain in this and most other diseases where opiates are indicated, at least when the operation is over, the patient sometimes finding relief whilst it works, I generally give an opiate immediately after it has done operating, and order it to be repeated daily, morning and evening, on the intermediate days, that I may more certainly ease the pain, till purging has been sufficiently performed.

7. When the affair of purging is over, I endeavour to check the violent motion of the humours, which is all that now remains to be done, by exhibiting an opiate every morning and evening, which must sometimes be repeated oftener: nor have I ever been able to ease very violent pains, without administering a larger dose than ordinary, and repeating it. For what might be sufficient to overcome another disease proves ineffectual in this; the violence of the pain destroying the force of the medicine. Opiates may be safely repeated whilst this kind of pain continues violent, but not after it ceases; for which reason I repeat the opiate in proportion to the violence of the pain, till it either goes quite off, or abates considerably; observing, however, to administer it at such convenient intervals, that I may know what effect is to be hoped for from the former dose, before I proceed to give another. But, in general, unless the pain be very severe, it will suffice to exhibit an opiate morning and night. My usual opiate then is laudanum above described; of which I give sixteen drops at a time, in some distilled cordial water; or the dose may be augmented occasionally, according to the violence of the pain.

8. This plain method, whereby 1. the peccant humour is discharged by bleeding and purging, and then 2. ease procured by means of opiates, has always succeeded better with me than any other I ever knew; whereas carminative glysters, injected in order to expel the sharp humours, prolong the disease by raising a disturbance in the juices. But I would have it particularly remarked here, that though I have affirmed that bleeding and purging must necessarily precede the quieting method, yet sometimes, when the case demands it, omitting both, the cure is to be begun with opiates. For instance; when by reason of some preceding illness, large evacuations have been used not long before the colic

began ; for frequently such as have recovered lately from some other disease, are suddenly attacked with this, from a weakness of the bowels, especially if a greater degree of heat be occasioned by too free an use of wine, or any spirituous liquor : now in this case I esteem it not only unnecessary but detrimental to raise fresh commotions, by giving more purges. Not to mention that the patient, in this disease, has generally cleansed his bowels sufficiently, by the frequent use of glysters, before applying to a physician ; so that partly upon this account, and partly by reason of the long continuance of the disease, it should seem that only opiates ought to be exhibited.

9. In August, 1671, I was sent for to Belvoir castle by Lord Annesley, who had been afflicted for some days with a bilious colic, attended with exquisite pain, and frequent vomiting. He had tried all kinds of glysters, and other remedies directed by the neighbouring physicians : I immediately advised the repeated use of opiates in the manner above delivered, and by this means he recovered in a few days, and returned to town with me in good health.

10. As this pain of its own nature is more apt to return than any other, all occasion of relapse is to be prevented by exhibiting an opiate twice a day for some time. But if it should return upon omitting the opiate, as it sometimes happens, I have hitherto discovered nothing that will so certainly promote the cure, as taking long journeys on horseback, or in a coach, observing in the mean while to give an opiate every morning and evening.* For by this kind of exercise the morbid matter is brought to the habit of the body, and the blood, broken and divided by the continual motion, does, as it were, undergo a new depuration, and at length the bowels are greatly strengthened and refreshed by this way of rousing the natural heat. Nor do I think it beneath me to own that I have frequently cured this disease by this exercise, when all other means had failed me. But this must not be attempted, unless sufficient evacuations have been previously made, and is to be persisted in several days afterwards.

11. During these years one of my poor neighbours, yet living, was seized with a most violent bilious colic, which he had long endeavoured ineffectually to relieve by cathartics, glysters, and swallowing leaden bullets. I had recourse here to the frequent use of opiates, nor did they prove unsuccessful, for he remained tolerably easy whilst he was taking them. But perceiving they only

* The reader is requested to attend not only to the efficacy of riding in the convalescence from the bilious colic, but to our author's practice (formerly mentioned) of giving opiates in the morning as well as in the evening, to prevent pain.

palliated, and did not eradicate the disorder, for it returned immediately after the effect of the opiate was gone off; I had compassion on the man, labouring under low circumstances, and a violent disease, and lent him a horse to ride a long journey, as above directed; and after riding a few days, his bowels became so strong as to be able to expel the remains of the disease, and he recovered perfectly by this means without the assistance of opiates.

12. And, to speak the truth upon this occasion, I have always known this kind of exercise used with great success, not only in this case, but in most other chronic diseases, provided it were resolutely persisted in. For if we consider that the lower belly, wherein all the secretory organs are seated, is greatly shook by this exercise, perhaps some thousand times a day, we shall readily believe that they are hereby enabled to shake off any gross sizzly humours fixed there; and (which is still more material) so strengthened by this powerful rousing of the natural heat, as to be able to perform the function of purifying the blood, assigned them by nature, in a proper manner.

13. For young persons of a hot constitution, I direct a cooling incrassating diet; for instance, barley, cream, panada, &c. and a small chicken, or a boiled whiting, every third day, if the appetite continues craving, and I allow no other liquor than small beer or milk boiled with thrice the quantity of water for drink; unless riding, which is necessary to complete the cure, requires a more nourishing diet and the use of some more generous liquors, to recruit the loss of spirits occasioned by exercise.

14. Moreover it is manifest from observation, that when this disease through wrong management proves of long standing, so that the bowels become weak, and the patient is extremely emaciated and deoilitated, the free use of plague water, AQUA MIRABILIS, or any other cordial that was most grateful to him when in health, relieves at this time beyond expectation. For by this means the small remains of the natural heat and spirits are roused, and the preternatural ferment lodged in the bowels, which occasions fresh fits between whiles, will be stopt.

15. The slender diet abovementioned must be continued, not only through the course of the cure, but for some time after the disease is gone off; for it is more apt to return than any other, and besides is seated in the principal instruments of concoction, which are the bowels, already weakened thereby, the least error of this kind will immediately occasion a relapse. And therefore all aliment of difficult digestion must be carefully avoided, both in this and all other disorders of the bowels, and food of easy digestion used very sparingly.

16. Some women are afflicted with an hysteric disorder, so

nearly resembling the bilious colic in 1. the sharpness of the pain, 2. its seat, and 3. the yellow and green colour of the matter discharged by vomit, that I will treat of it by the way, for fear it should be taken for the disease just mentioned.

17. Females, 1. of a lax and gross habit of body are chiefly subject to it, as are 2. likewise such as have formerly had some hysteric indispositions, or (which frequently happens) those who have just recovered of a difficult labour, occasioned by the largeness of the infant, whereby the mother's strength and spirits were nearly exhausted. 1. It attacks the region of the stomach, and sometimes the parts just below it, with as violent a pain as accompanies the colic, or iliac passion; which 2. is succeeded by exorbitant vomitings, sometimes of green, and sometimes of yellow matter; 3. and to these symptoms, as I have frequently observed, succeed a greater lowness of spirits and despondency than occur in any other disease. The pain goes off in a day or two, but returns again in a few weeks after, and rages with as much violence as ever, before the fit terminates. It is sometimes attended with a remarkable jaundice, which vanishes spontaneously in a few days. When the symptoms are all gone off, and the patient seems pretty well recovered, the least disturbance of mind, whether proceeding from anger or grief, to both which women are extremely subject in this case, is apt to occasion a relapse. Walking also, or any other exercise used too soon, will do the same; such causes being productive of vapours in lax and weak constitutions. I use the term vapours with the vulgar, but whether they be vapours, or convulsions of particular parts, the appearances may be equally accounted for.

18. When these vapours or convulsions attack any particular part of the body, they produce such symptoms as are natural to the part affected; whence, though they every where constitute the same individual distemper, yet they artfully resemble most diseases incident to mankind; as plainly appears from the disease under consideration, which exactly counterfeits the bilious colic, when it attacks the parts adjacent to the colon. And this is equally manifest also in many other parts of the body affected with this disease. For instance, it sometimes attacks one of the kidneys with a violent pain, occasioning excessive vomiting; and being frequently conveyed through the ureters, it counterfeits the stone, in which case, the pain being increased by glysters, and other lithontriptic medicines used to bring away the stone, it continues with the same violence for a long time, and sometimes destroys the patient contrary to its nature, as being of itself not dangerous. I have also known it occasion a train of symptoms exactly like those of the stone in the bladder. I was called up lately in the night to a Countess in the neighbourhood, who was seized, on a

sudden, with a very severe pain in the region of the bladder, along with a stoppage of urine; and having learnt that she was subject to various hysteric complaints, I conjectured that the disorder was mistaken; and therefore forbid the injecting a glyster, which her woman had got ready, as apprehending it might be augmented thereby; and instead of this and the emollients brought by the apothecary, such as the syrup of marsh mallows, &c. I administered an opiate, which soon removed the complaint. In reality, no part of the body, either external or internal, is quite free from the attacks of this distemper, as the jaws, hips, and legs, in all which it causes intolerable pain, and when it goes off, leaves such a tenderness of the part behind that it cannot bear the touch, as if the flesh had been bruised with abundance of stripes.

19. Having now, by way of digression, communicated some remarks belonging to the history of the hysteric colic, to prevent its being taken for the bilious colic, I will briefly treat of some other particulars relating to the cure of the symptom of pain attending it: for the radical cure of the disease itself, which is effected by removing the cause, is a quite different subject, and to be considered in another place.

20. Bleeding and repeated purging, which are so manifestly indicated in the bilious colic, at the beginning, should be omitted here, except in the case hereafter to be mentioned. For experience shews, that the pain and other symptoms are increased by the disturbance caused by these evacuations, and I have often observed, that the repetition of the gentlest glysters hath occasioned a continued train of symptoms. For if we take a view of the causes whence this disease generally proceeds, both reason and experience teach that it is rather owing to irregular motion of the spirits, than to any depravity of the juices. Now these causes are either 1. copious and preternatural hæmorrhages, 2. inordinate passions of the mind, 3. violent exercise of the body, and the like; in all which, such medicines as increase the hurry of spirits are improper, and opiates are to be exhibited in their stead, though the green and ill colour of the matter ejected by vomit should seem to indicate the contrary. For the consideration of colour is of too subtle and refined a nature to authorize such evacuation as experience proves to be detrimental. And I doubt not but this disease, which, though it be very painful, does no way endanger life, hath proved fatal to abundance of persons, through mistakes of this kind. To this may be added, that though the strongest emetic be given to-day, in order to expel the supposed cause of the disease, yet the patient will next day vomit a matter, full as green or of some other bad colour, like the former.

21. But it must be observed, that sometimes there is such a foulness of blood and juices, as resists the operation of an opiate

so powerfully, that, notwithstanding it be very frequently repeated, it avails not to quiet the disturbance, unless bleeding or purging precede; as I have remarked in women of a very sanguine constitution and robust make. This being the case, one or other of these remedies, and perhaps both, must be previously used, in order to make way for the opiate, a moderate dose whereof will then produce the intended effect; though before bleeding or purging, the largest dose availed not. But this is a case that seldom happens, and these remedies are not then to be repeated. These particulars being premised, where there is a demand for opiates, we are to proceed in administering them according to the method specified in treating of the bilious colic: and they are to be repeated, in point of frequency, in proportion to the abatement of the pain. This method indeed is only adapted to relieve the present symptom of violent pain; for I have not undertaken to treat of that, in this place, which removes the cause of the disease.

22. But as this distemper, both in hypochondriac and hysteric subjects, (for the reason is the same in both, as we shall shew in another place) often terminates in a jaundice, which increases proportionally as the original disorder goes off, it must be remarked, that in curing this kind of jaundice, all purgatives are either wholly to be refrained, or none exhibited, except rhubarb, or some other gentle lenitive; for it is to be apprehended that a new commotion may be occasioned by purging, and consequently a return of the symptoms. In this case therefore it is more expedient to give no medicines at all, as the jaundice arising from this cause abates by degrees spontaneously, and totally vanishes in a short time. But if it continues long, and seems to go off slowly, we must have recourse to medicines. I commonly use the following:

Take of the roots of madder and turmeric, each an ounce; the roots, together with the leaves of the greater celandine, and the tops of the lesser centaury, each an handful; boil them in equal quantities of Rhenish wine, and spring water, to a quart; to which, when strained off, add two ounces of the syrup of the five opening roots: mix them together for an apozem, of which let the patient take half a pint, warm, every morning and night, till the cure be completed.

23. But where the jaundice comes of itself, without being preceded by the colic, besides the alteratives just set down, such medicines must be given once or twice, as evacuate the bile by stool, before the patient begins with the apozem above prescribed, and once a week afterwards, whilst it is continued,

Take of the electuary of the juice of roses, two drams ; rhubarb finely pulverized, half a dram ; cream of tartar, a scruple ; syrup of succory, with rhubarb enough to make them into a bolus, to be taken betimes in the morning, drinking after it a glass of Rhenish wine.

But if, notwithstanding the long continuance of these medicines, the disease still remains obstinate, the patient should go to some place where there is a chalybeate mineral spring, for instance, Tunbridge, and drink the water every morning at the well-head till he recovers.—And let this suffice for the diseases of this constitution.

SECTION V.

CHAP. I.

OF THE EPIDEMIC CONSTITUTION OF PART OF THE YEAR
1673, AND OF THE YEARS 1674, 1675.

1. ABOUT the beginning of July, 1673, there arose another kind of fever, which did not prove very epidemic; because the constitution was not yet so entirely disposed to favour it, as wholly to exclude the diseases of the preceding constitution. For that kind of small pox which began in 1670 was not yet extinct, though it appeared less frequently, and the symptoms were milder; so that these two diseases prevailed almost equally, but neither very severely, the former constitution being not so totally gone off, as to leave none of the diseases belonging thereto, (for the dysentery continued to attack a few) and the then reigning constitution not being so perfectly established, as to produce such as might exterminate all other distempers.

2. The small pox and this fever continued equally prevalent during this autumn and the following winter, but neither of them raged with great violence; and the dysentery was in a manner extinct. But in November following a sharp frost of some days being unexpectedly succeeded by warmer weather than I ever remember to have observed at this season, some few persons were seized with the dysentery a little before and about Christmas; but it seemed then to be going off, and in a short time afterwards this kind of it at least quite vanished.

3. The next year the measles appeared very early, namely, in January, and proved as epidemic as that kind which began about the same time in 1670; for few families escaped it, and it attacked children especially: but it was not so regular in its stages, as that which prevailed in the above-mentioned year. But I shall say more of the difference between them, when I come to treat of this kind more particularly. It increased every day more and more, till the vernal equinox, after which it abated as gradually, and at length went off soon after the summer solstice.

4. As the epidemic measles of 1670 introduced the black small pox above described, so the present kind, which appeared in the beginning of the current year 1673, being equally epidemic, was accompanied with a similar kind of small pox. For whereas the small pox of the preceding constitution, as hath

been already observed, after the first two years gradually abated of their blackness, and also increased proportionally in size, till towards the end of the year 1673, when, considering the kind, it was mild and favourable, it now returned with its former violence, and attended with very dangerous symptoms. This kind of small pox prevailed during the following autumn, and continued longer than usual in winter, which, on account of its uncommon warmth, favoured this disease; but when cold weather came in, it abated, and soon gave place to the present epidemic fever.

5. This fever, which had continued the whole year, made great devastation in the beginning of July, 1675, but at the approach of autumn it began to strike in upon the bowels, appearing sometimes with the symptoms of a dysentery, and at others with those of a diarrhœa; though sometimes it was free from both, and rather seized the head, and caused a kind of stupor. In the mean while the small pox, which attacked only a few subjects here and there, disappeared entirely towards the autumnal equinox: and now the fever, having overcome the other epidemics, became the capital disease of the year. It must however be observed, that as this fever was much disposed to throw off the morbid matter upon the bowels, which sometimes occasioned a dysentery, but more frequently a diarrhœa; so upon this account the gripes were generally supposed to have destroyed the numbers that died at this time; whereas in reality their death was rather to be ascribed to the fever, for such as attended the sick during this autumn knew how much the fever prevailed; so that both the dysentery and the diarrhœa ought rather to be accounted symptoms, than essential and original diseases.*

6. This fever proceeded in this manner during the autumn, sometimes seizing the head, at others the bowels, every where raging under the appearance of symptoms peculiar to those parts, till the end of October; when the weather, which till now had continued in a manner as warm as summer, changed suddenly to cold and moist, whence catarrhs and coughs became more frequent than I remember to have known them in any other season. But it is of most moment to observe, that the stationary fever of this constitution usually succeeded these coughs, and hence became more epidemic; and likewise varied some of its symptoms. For whereas some little time before as above-mentioned, it attacked the head and bowels, now it chiefly seized the lungs and pleura, whence arose peripneumonic and pleuritic symptoms;

* The whole of this section is a confirmation of the unity of the autumnal disease, as well as of its predominance over all other diseases.

though it was still precisely the same fever that began in July 1673, and continued without any alteration of its symptoms till the rise of these catarrhs.

7. These catarrhs and coughs continued to the end of November, after which time they suddenly abated. But the fever still remained the same as it was before the catarrhs appeared ; though it was neither quite so epidemic, nor accompanied with the same symptoms, both these depending accidentally upon the catarrhs. Moreover upon their going off, a small pox, manifestly of the same kind with that of the preceding year, began to attack a few persons here and there ; but as they had now almost completed their second year, the symptoms were not so violent as in the beginning.

I cannot say how long this constitution will prevail, but this I certainly know, that it has hitherto been very anomalous and irregular, as have likewise all the diseases occasioned thereby. I proceed now to treat of the epidemics of this constitution, in the order wherein they succeeded each other.

CHAP. II.

OF THE CONTINUED FEVER OF THE YEARS 1673, 1674, 1675.

1. THIS fever, like other epidemics, was attended with such symptoms soon after its rise, as clearly shewed that the inflammation was then more violent and spirituous, than in its progress. For the first year of its appearance, and the following spring, pleuritic symptoms succeeded upon the fever, and the blood that was taken away resembled that of pleuritics, at least for the first and second time, but in the course of the disease these signs of an extraordinary inflammation disappeared.

2. Besides the usual symptoms of all fevers, this fever generally had the following: 1. A violent pain in the head and back ; 2. a stupor, 3. and tensive pain of the limbs,* joints, and whole

* It would seem, from the history of this fever, that our author supposed, the pains in the *limbs* which attended it, to be different from rheumatic pains. They depend upon the same proximate cause, and are only of a more transient nature than in a common rheumatism. The *permanent* seat of the rheumatism it is true, is in the joints, from their more constant use in walking, inducing in

body, but somewhat milder than in a rheumatism ; 4. heat and cold succeeded alternately in the infancy of the disease ; 5. and sometimes also a great tendency to sweat accompanied it ; 6. when the fever was suffered to proceed according to its own nature, the tongue was not dry, and but little altered in its natural colour, only it was whiter ; 7. the thirst was inconsiderable ; 8. but when the heat was increased beyond the degree common to this fever, the tongue appeared extremely dry,* and of a deep yellow colour, the thirst was also increased, and the urine became intensely red, which otherwise used to retain almost its natural colour. When this fever was accompanied only with these symptoms, it went off on the fourteenth day, if skilfully treated ; but when it proved very inveterate, it continued till the one and twentieth day.

3. Amongst the symptoms attending this fever, the principal one was a kind of coma, which rendered the patient stupid and delirious, so that he would doze sometimes for several weeks, and could not be awakened without loud noises, and then he only opened his eyes, and directly after taking either a medicine, or a draught of some liquid he was used to, fell into a sleep again, which sometimes proved so very sound as to end in an entire loss of speech.

4. When this symptom vanished, the patient grew better on the twenty-eighth, or the thirtieth day, the first sign whereof was the desiring or longing for some odd and uncommon kind of liquid or solid aliment. But the head continued weak for some days, and nodded sometimes on this and sometimes on that side ; and there were other signs, which manifested it to have been greatly disordered : but in the same degree that the strength returned, this symptom went off.

5. Sometimes the patient did not sleep, but was rather silently delirious, though at times he talked wildly, as if in a passion ; but the fury never rose to so great a height, as is common in a phrenzy in the small pox and other fevers ; from which it also differed in this particular, that he slept confusedly at intervals,

them more of the predisposition of debility. It sometimes effects the muscles exclusively, again the tendons, then the capsular ligament of the joints, and in its worst grade, the ends of the bones. From the predisposition to this disease being greatest in the joints from the cause that has been mentioned, also from labour, blisters, after depletion, should be applied *directly* to them.

* A dry tongue, like dissolved blood, is often the effect of too much and too little action in the blood vessels, and hence we observe its moisture to be restored (according to circumstances) alike by depleting and stimulating remedies.

and likewise snored more soundly.* Neither was this symptom so acute as a phrenzy, but it continued longer, and chiefly affected children and youths, whereas that chiefly attacks grown persons. But in both, if heating medicines were given, and sweating promoted, the disease soon flew up to the head, and occasioned this symptom.

6. But where the symptom neither came spontaneously, nor was forced by medicine, the disease generally terminated in fourteen, and sometimes in three or four days, as I have occasionally observed.

7. In autumn, 1675, as we intimated above, this fever endeavoured to go off by a dysentery, and sometimes by a looseness; but the latter especially happened very frequently whilst the stupor still continued: however, as far as I could learn from diligent observation, both these were only symptoms of this fever.

8. To proceed to the cure: when this fever arose, viz. in July, 1673, I immediately perceived it was of quite another kind, both from the various signs wherein it differed from those which accompanied the fevers of the preceding constitution, and from its not yielding to purging, by which I successfully cured all those fevers. Upon this account I employed more time than ordinary in searching into its species, and was consequently under much perplexity in what manner to proceed in the cure. For when this fever first appeared, it had no epidemic contemporary therewith, whose genius being thoroughly known, might enable me to discover somewhat of the nature of this; for the small pox which accompanied it, as I have before said, seemed to be the remains of the black small pox of 1670, and was now become very mild, and nearly extinct. I had no other way left, therefore, but to inquire carefully into this disease as it stood alone, and to use my best endeavours to find out a suitable method of cure, by always attending diligently to the *juvantia et lædientia*, i. e. to what made the patient better or worse.†

* This fever has lately received the name of the apoplectic state of fever. It occurred occasionally in the yellow fever during the late years of its prevalence in Philadelphia, but seldom assumed the chronic form described by our author.

† Our author has frequently told us how much benefit he derived in the treatment of new diseases, from attending to the characters of the diseases which preceded or accompanied them. But in the present instance those guides forsook him. Like a traveller in a wilderness without a compass, and deserted by the luminaries of heaven, he stands appalled;—but the resources of his great and commanding genius supply their place. He flies to what he calls the *juvantia et lædientia*,—and soon discovers, from their effects upon the body, suitable remedies for this new form of disease.

9. The violent pain in the head, and the tendency there was to a pain in the side, together with the resemblance of the blood to that of pleuritics, soon shewed that this fever was accompanied with a considerable inflammation, notwithstanding which it would not admit of such large evacuations as are proper in a pleurisy; for after the first and second bleeding, the blood entirely lost its sizzly surface, and repeated bleeding did not at all relieve, unless, perhaps, the disease changed to a true pleurisy, which sometimes happened by using a hot regimen, especially during the first spring wherein it attacked, namely, in 1674, at which time, being promoted by the approach of the sun, it seemed to tend to a kind of peripneumony, the disease being then in its infancy, and more spirituous than afterwards. Being deterred from repeated bleeding, by the ill success which attended it in some instances notwithstanding this fever manifestly appeared to be of a very inflammatory nature, especially at its first coming, I had no other means left to mitigate the heat thereof, except the frequent repetition of glysters, and the use of cooling medicines. Besides the symptoms that so apparently discovered an inflammation, the stupor, which happened oftener in this than in any other fever, indicated the frequent injection of glysters, in order to make a revulsion of the febrile matter from the head, which it was very apt to attack in this distemper; and they were substituted instead of repeated bleeding, which agreed not well with the nature of it, and supplied the want thereof by gradually and gently cooling the blood, and expelling the morbid cause.

10. Moreover, I judged that large blisters applied between the shoulders must needs do more service in this than in other fevers, where the febrile matter does not equally affect the head; for by the violent heat and pain they usually occasion in the part whereon they are laid, the matter, which would otherwise fly up to the head, is derived thereto. By the use of these remedies, along with a cooling regimen, the disease at length yielded, as it were, naturally and spontaneously, how severely soever it raged, when it was treated by a different method; as plainly appeared to me from numerous instances.

11. I proceeded, therefore, in the following manner: I first took away such a quantity of blood from the arm, as the strength, age, and other circumstances, required, and then immediately applied a large blister between the shoulders. The next day I ordered a laxative glyster to be given so early in the afternoon (viz. about two or three o'clock) that the disturbance thereby occasioned might be quieted before the evening, and it was repeated every day till the disease abated, when I judged that glysters were to be omitted, and even sooner, if the fever continued after the fourteenth day; having found that they availed

not after this time, even though the fever had not been conquered by those which had already been injected. For the violence of the disease, and the symptoms thereon depending, being now abated by the preceding ebullition, and the danger over, I judged it best to leave the disease to itself, to go off by degrees spontaneously. And this method always succeeded better with me, than the attempting some considerable evacuation at this time. In the meanwhile I forbade the use of flesh, but allowed small beer to be drank at pleasure.

12. In treating of the regimen of this distemper I must not omit to observe here, that the patient should sit up at least some hours every day; much experience having shewn that this is of singular service. But if it be contra-indicated by great weakness, the patient should, however, put on his clothes, and lie down on the bed, with his head raised high. For having considered how violently the fever was carried up to the head, and also the inflammatory state of the blood, I conceived he might find some relief by placing the body in such a posture as might prevent all increase of heat from the bed clothes (which cannot be avoided if he lies constantly in bed) and check the course of the blood to the head, which increases the heat of the brain, and consequently heats and agitates the animal spirits, whence the heart beats quicker, and the fever rises higher.

13. But how serviceable soever it be in all fevers, attended with great inflammation, not to confine the patient continually in bed, yet it must be observed, that the sitting up too long at a time, particularly in the declension of the disease, disposes to flying pains, that may end in a rheumatism; and sometimes a jaundice is hereby occasioned. In these cases lying in bed is necessary, which opens the pores, so that the particles occasioning either of these disorders may be conveniently carried off thereby.* But the patient is to be kept only a day or two in bed, without exciting sweat. These accidents, however, seldom happen, and never but in the decline of the fever; when, the disease being abated, it is much safer to let the patient lie constantly in bed, than in the beginning or height thereof; for at this time it forwards the digestion of the febrile matter, which is more exasperated and inflamed by an earlier confinement in bed.

14. But if it should be objected here, that this method, though it be proper enough to divert the course of the blood from the head, and cool the patient, is nevertheless improper, because it

* A useful caution is given in this place, in advising patients to sit up in fevers. It should never be done towards their close, nor in fevers of weak morbid action.

checks the evacuation by sweat, whereby the febrile matter, now concocted, should be wholly expelled ; I reply, that the objection is of no force, unless it be first proved that this kind of evacuation is necessary in every fever, which cannot easily be done. For experience, not reason,* points out which species of fevers is to be cured by sweat, and which by purging, &c. Moreover, it is not improbable that there are some kinds of fevers, which nature cures by a peculiar method of her own, without any visible evacuation, viz. by moulding and assimilating the morbid matter in the blood, with which it did not well mix. And going upon this principle, I have often cured this and other sorts of fevers (provided they were not intermittent) in the beginning, before the whole mass of blood was vitiated, only by directing small beer to be drank at pleasure, forbidding broths, and every other kind of aliment, allowing the patient the use of his ordinary exercise, and the open air, and not so much as once using any evacuation. Thus I have cured my children and intimate friends, by making them fast strictly for two or three days ; but this method is only to be used in young persons, and such as are of a sanguine constitution.†

15. But if it be granted, that nature can conquer the disease no otherwise than by sweat, ought it not to be understood of the sweat that appears in the decline of the disease, in consequence of the previous digestion of the peccant matter, and not of that which is forced in the beginning, and proceeds from disturbing the procedure of raging nature ? I conceive that such a sweat is not to be promoted, but, contrarywise, that the disturbance whence it proceeds is rather to be quieted : this kind of sweat usually accompanies many, though not all sorts of fevers. But I am well aware, that some kinds of fevers naturally require this sort of critical sweat at their declension ; such are the particular fits of intermittents, and likewise the great and most frequent fever of nature, arising from that constitution which only tends to produce intermittents epidemically. For if any method be followed, which does not tend, 1. to digest the morbid matter, and 2. to expel it by sweat, the disease will be increased thereby ; so that no evacuations must be used here, unless inasmuch as they moderate the violence of the disease in the beginning, for fear of occasioning the death of the patient during the course of

* Our author, by extolling experience, at the expense of reason, forgets that the practice he hints at is strictly conformable to right reason.

† The practice of preventing fevers by abstinence is an old one, and if generally adopted, would often destroy them in their forming state.

the cure. Moreover, the cause of a pestilential fever, as it is of an exceeding subtiler nature, may be carried off by sweat on the first days of the illness, as experience universally shews.

16. But in those fevers, wherein we never find, by the common course of the symptoms, and when they are suffered to proceed according to their own genius, that nature is used to discharge the morbid matter, now prepared, in a limited time, it would be very imprudent to attack the disease, and endeavour to cure it only by promoting sweat, since, as Hippocrates observes, it is in vain to oppose the motions or tendency of nature.* And I conceive this ought to take place in the fever under consideration, which I know by much experience may be cured without sweat, and likewise that, whilst we endeavour to force it unseasonably, the life of the patient is unnecessarily endangered, by the morbid matter being translated to the head. But, however, no prudent physician will reckon it a trifling advantage, either in this or any other fever, not excepting such as are not usually terminated by a critical sweat, if such a kind of sweat should by accident succeed spontaneously upon the abatement of the disease; since, by the remission of all the symptoms, this sweat may be esteemed to proceed from a due concoction of the febrile matter. But when it does not appear spontaneously, what assurance have we, that the patient will not be destroyed, whilst we endeavour by a hot regimen and cardiacs to dispose the humours to sweat? Should a person by chance find something of value in his way, he would doubtless stoop to take it up, unless he were a fool; but he must needs deserve that character, who, having had this good fortune, should use his utmost endeavours to obtain such another prize with the hazard of his life. Be this as it will, it is apparent to me, that the fever alone is attended with a sufficient degree of heat to prepare the febrile matter for concoction, and needs no additional heat from without, by means of a hot regimen, in order thereto.

17. I have found the above-mentioned method of bleeding and injecting glysters very successful in the cure of this fever; whereas contrarywise sudorifics not only occasioned anomalous symptoms of a bad kind, but likewise rendered the cure uncertain. The capital symptom in this fever was the silent delirium, which did not manifest itself so much by talking wildly, as by a

* Even the name of Hippocrates should not be permitted to sanction this error. Profuse hæmorrhages, a wasting diarrhœa, and collaquitive sweats, all of which are induced by nature, should all be opposed by art.

stupor resembling a coma, which, as we said above, often happened in this fever. I have sometimes known it come spontaneously, but it is generally occasioned by the ill-timed over-officiousness of nurses in raising sweat, whereby the morbid matter (which in this kind of fever does not admit of expulsion of sweat) is put into a violent motion, and at length flies up to the head, to the endangering the life of the patient.

18. I have already remarked, in treating of the cure of the fever of another constitution, that in the latter years of its prevalence, a stupor of this nature chiefly affected children and such as were under fourteen years of age; but that was neither so considerable, nor so epidemic, as the stupor which accompanied the present fever. Yet I could not conquer the first, and much less the last, in the beginning of the fever, though I used all possible endeavours, by repeated bleeding both in the arms, neck, and feet, blistering, cupping, giving glysters and sudorifics of all kinds, and the like; so that at length I determined, after bleeding in the arm, to apply a blister to the neck, and throw up two or three glysters of milk and sugar in the beginning of the illness, without doing any thing more than forbidding the use of flesh and all kinds of spirituous liquors: in the mean time I attended the procedure of nature, and by following her steps learnt at length how to conquer this symptom; for the disease went off safely, though slowly. Upon this account I judged it necessary to pursue this method in all the fevers I have since treated, and look upon it as a thing of great importance, if the greatness of the symptom, and the constant success attending it, be considered.

19. And in reality I have sometimes thought, that we do not proceed slowly enough, and ought to use less expedition in removing distempers, and that more is frequently to be left to nature, than is usual in the present practice. For it is a grand mistake to conclude that nature always wants the assistance of art; for if that were the case, she would have made less provision for the safety of mankind than the preservation of the species demands, there being not the least proportion between the multitude of diseases and the knowledge men were endowed with to remove them, even in those ages wherein the healing art was at the highest pitch and most cultivated: what it may do in other diseases, I cannot say; but I am convinced, from diligent observation, that in the fever under consideration this symptom, after using the general evacuations, viz. bleeding and glysters, was successfully conquered by time alone.*

* Upon the history of this chronic comatose state of fever, two remarks may be made. 1. The great benefits to be derived from re-

20. It has been already observed that the sign of recovery did not usually appear till the thirteenth day, when the stupor was considerable, and attended with a loss of speech; and then the patient earnestly longed for some odd kind of liquor or solid aliment, the ferment of the stomach being greatly vitiated by the long continuance of the fever. Now, in this case, though the patient was so weak as to need a restorative diet, yet I willingly allow such things as were less proper, provided they were more grateful to the palate.

21. In September, 1674, I attended the son of Mr. Not, bookseller, a youth of nine years of age, who was afflicted with this fever, accompanied with the above-mentioned symptoms. After bleeding in the arm, and injecting glysters every day in the beginning of the illness, the mother earnestly importuned me to hasten the cure more than I judged consistent with the safety of her child, and therefore I refused to comply with her request. Having accordingly gained time, I directed only a common julep; which I did rather to please the mother, than to relieve the son. On the thirtieth day he began to mend, and earnestly desired several odd kinds of eatables, some of which were indulged him upon this account, though they ought not otherwise to have been allowed; and by this means he at length recovered.*

22. But though this comatous kind of stupor oftener accompanied this fever than the other symptoms, yet sometimes, though rarely, a delirium happened without a stupor, in which the patient slept neither night nor day, and was ungovernable, and was scized with other symptoms, resembling those which affect delirious persons either in the small pox or in other fevers. This symptom would not admit of palliation, like the comatous disorder just mentioned, till concoction could be performed, but

medies exactly accommodated to the state of the system. A glyster we see gave relief, when the stimulus of a purge did harm. Thus we read of the willow bark curing a fever, in which the Peruvian bark occasioned death. The scales in which life and death are placed are often so exactly balanced, in some diseases, that the weight or abstraction of what is equivalent to a single grain may turn the scale in favour of either of them. 2. The fever under consideration derived its chronic form from nature, and hence it refused, like the autumnal fevers, after they are so completely formed, to yield to any of the common remedies for fever until they had run their course. Depleting and stimulating remedies prove alike hurtful in them. Skill in their treatment consists wholly in keeping the system within the limits of the powers of nature.

* The remedy in this case is not the odd aliment which is longed for, but the removal of the pain from the vehemence of the appetite, and the pleasure which attends its gratification.

proved fatal in a short time, unless the inflammation was abated, In this case, spirit of vitriol did more good than any thing else, so that, after bleeding, and injecting a glyster or two, I allowed it to be dropt into small beer for common drink : and in a few days it disposed the patient to sleep, and having removed the symptoms, restored him to health, which indeed I was not able to effect by any other method. And this was manifest to me by much experience.

23. In Autumn, 1675, dysenteric stools, and sometimes a looseness, succeeded this fever, which I presently perceived were symptomatic, and not original disorders, as in the preceding constitution. But notwithstanding, as the cause of the disease was contained in the mass of blood, bleeding was indicated, which, with the assistance of two doses of an opiate afterwards, proved sufficient to overcome this symptom.

24. In September, 1675, I was called to Mrs. Conisby, who was seized with this fever, which was suddenly followed with gripings, and these by bloody and mucous ejections. Though her strength was much exhausted by the long continuance of the disease, and especially by the frequent stools, which had greatly fatigued her the preceding night, I directed bleeding in the arm immediately, and soon after gave an opiate, after which there appeared natural stools the same evening. I repeated the opiate the following morning and evening, and ordered a gentle cardiac to raise the spirits ; and by this treatment she soon recovered.

25. As to the diarrhœa, which frequently happened in this fever about this time of the year, it occasioned little inconvenience ; and as it neither proved serviceable, nor prejudicial, as far as I could perceive, whether there was a stupor or not, so it furnished me with no indication, provided it was not so violent as to endanger the life of the patient, in which case an opiate was clearly indicated ; and in this symptom only is the use of anodynes to be approved throughout the course of this disease ; for the extraordinary tendency to a stupor in this fever was increased by medicines of this kind, consequently they were not to be given without an absolute necessity.

26. It must be observed, that it often happens that those persons who recover after this and other fevers, especially such as have been much exhausted by its long continuance, and have required large and tedious evacuations to complete their cure (particularly if they were also of a weak constitution) do, as they lie in bed at night, first grow hot, and then fall into a profuse sweat, whereby they are greatly debilitated, and recover strength slowly ; and some likewise fall into a consumption. As I conceived that this symptom proceeded only from the blood's being so impoverished and weakened by the continuance of the preceding illness, that it could not assimilate the juices lately taken in, but

endeavoured to expel them by sweat, I ordered that the patient should take five or six spoonfuls of old Malaga sack, morning and evening, whereby the strength increased daily, and the sweat vanished. And thus we have finished our discourse of the continued fever of this constitution, which we choose to call the comatous fever, on account of the great stupor which generally accompanied it.

CHAP. III.

OF THE MEASLES OF 1674.

1. IN January, 1674, there arose a different kind of the measles from that which began in the same month, in 1670, and yet it proved as epidemic, but was not equally regular, nor so constantly kept its several stages; for sometimes the eruptions came out earlier, and sometimes later; whereas in the other kind they always appeared on the fourth day inclusive from the beginning of the illness. Again, the eruptions here appeared first on the shoulders, and other parts of the trunk; but in the other species they first shewed themselves in the face, and by degrees spread over the rest of the body. In this species likewise I seldom found that the skin peeled off like branny scales upon the disappearance of the eruptions, which happened as certainly in the other kind as after a scarlet fever. Moreover, this sort proved more destructive, when unskilfully treated, than the former; for the fever and difficulty of breathing, which used to succeed at the close of the distemper, were more violent here, and resembled a peripneumony more. But though this species of the measles was anomalous and irregular, with respect to the symptoms just mentioned, yet in general the description of that of 1670 agreed pretty well therewith; which need not therefore be repeated here. This kind also, like the former, increased till the vernal equinox, from which time it abated, and at length vanished, at the approach of, or soon after, the summer solstice.

2. As the method of cure differs little from that which is amply delivered above in the history of the measles, it is to be sought for there; and I will only give a single instance hereof in this place, according to my custom.

3. In February, 1674, the countess of Salisbury sent for me to one of her children in the measles, which the rest, to the number of five or six, soon afterwards caught, and I treated them all

in the same manner. I ordered they should lie in bed for two or three days before the eruption, that the blood might breathe out through the pores the particles occasioning the distemper, which were easily separable from it. But I allowed them no more clothes, nor a larger fire, than they were accustomed to when in health. I forbade the use of flesh, and permitted them to sup water gruel, and barley broth, and between whiles to eat a roasted apple, and I gave them small beer, or milk boiled with thrice its quantity of water, for drink. I also prescribed a pectoral ptisan, as usual, to be drank occasionally, as the cough proved troublesome. By this means they recovered in the short time wherein this disease ordinarily terminates, and were not seized with any symptom which is not common in the measles, throughout the course, or after the departure, thereof.

4. During the first two months in which this kind of measles prevailed, a kind of morbillous fever intervened in a few subjects, attended with some eruptions in the body, but especially in the neck and shoulders, resembling the measles, from which however they differed in being confined to the parts above mentioned, and not seizing the whole body.* The fever also, though manifestly of the same kind, was more violent, and lasted fourteen days, and sometimes longer. It admitted neither bleeding nor glysters, being exasperated by both, but readily yielded to the method adapted above to the measles. And let this suffice for the measles.

CHAP. IV.

OF THE ANOMALOUS SMALL POX OF 1674, 1675.

1. AS the epidemic measles, which appeared in the beginning of the year 1670, introduced the black small pox there described; so that kind which arose in the beginning of 1674, and proved equally epidemic, introduced a sort of small pox, so extremely like the former, that it seemed to be the same revived,

* This morbillous fever has since been described in the medical essays of Edinburgh, in Dr. Wilson's practice of medicine, and in the medical inquiries and observations of the editor.

and not a new kind. For as we have before observed of that sort of small pox, that after the first two years of its prevalency the pustules became daily less black, and grew larger by degrees, till the end of the year 1673, when the disease was mild and gentle, considering the kind, it now returned again with its former violence, and attended with a train of destructive symptoms. For in the flux kind the pustules appeared of a sooty blackness, unless the disease proved fatal before they came to suppuration; for whilst they ripened they were only of a brown colour. Moreover, when the pustules were numerous, they were very small (for where very few appeared, they were of the same size as in other kinds of the small pox, and were rarely black) and nearly resembled that kind above described which prevailed in 1670, differing only in a few particulars, which shewed that this sort was attended with a greater degree of putrefaction, and of a grosser and more indigestible nature: for when the eruptions came to maturity, they were much more fetid than in the other kind, inasmuch that I could scarce bear to approach such as were very full, the stench was so offensive. They also run through their stages slower than any other species I had hitherto seen.

2. It is worth observing, that the milder the kind is, the sooner the eruptions come to suppuration, and the disease is terminated. Thus, in the regular species of the confluent small pox that began in 1667, the eleventh day was attended with most danger, after which the danger was generally over. In the next succeeding irregular species of the confluent small pox, which arose in the beginning of 1670, the fourteenth, or at farthest the seventeenth day, proved most fatal, which if the patient survived, he was in no further danger; for I never knew a person destroyed by this disease after the seventeenth day. But in this sort of the confluent small pox there was danger after the twentieth day; and sometimes, if the patient recovered, which happened to few, the ankles not only swelled, which is common in every species of the confluent small pox, but the shoulders, legs, and other parts; and these swellings began with intolerable pain, like a rheumatism, and frequently came to suppuration, and terminated in very large sinuses and imposthumes in the muscular parts; so that the patient's life was greatly endangered for several days after the small pox was gone off. Hence I clearly perceived by what degrees this epidemic distemper advanced through these constitutions, the latter whereof always exceeded the former, both in the degree of putrefaction, and the indigestible state of the morbid matter.

3. But the small pox whereof I now treat seems to me to be a new sort arising from the former, now in the decline. For though, according to the tendency of the air productive of this epidemic, the black small pox, which first appeared in 1670, had

arrived at its declension, yet, like a relapse of some disease caused by the fresh fermenting of the former matter, the air being again disposed to produce the small pox, brought it back; and the disease being renewed, and having obtained fresh force, seemed clearly to revive, and in a manner to grow young again. And this kind proved so much more irregular, and was accompanied with greater putrefaction, in proportion as the matter occasioning it was grosser and fouler than that which produced the preceding kind. Now, to render this still more manifest, we must not imagine there is the least necessity of such a disposition in the air, as may propagate a particular epidemic in one place, and a very different one in another not far distant from it; but if this were the case, as it sometimes is, every motion of the winds would have a power of spreading a constitution. But I conceive it more probable, that a certain particular tract of air becomes replete with effluvia from some mineral fermentation, which, infecting the air through which they pass with such particles as prove destructive sometimes to one kind of animals, and sometimes to another, continue to propagate the diseases peculiar to the various disposition of the earth, till the subterraneous supplies of those effluvia fail; which may likewise undergo a new fermentation from the remains of the old matter, as in the case just mentioned.

4. But whether this or any other hypothesis may better serve to solve the phenomena, is equal to me, who pretend to know nothing more than is clear from the fact itself. Of this however I am certain, that the present small pox exactly resembled that of the preceding constitution; only it seemed to be of a grosser nature, and attended with a much greater degree of putrefaction. And from these two causes it followed, that when the eruptions were very confluent, it destroyed abundance more than any other sort I had hitherto seen; and, in my opinion, was as fatal as the plague itself, with respect to the numbers it affected: though, when it proved the distinct kind, it was not more dangerous than any other sort, and by the size and colour of the pustules, and other particulars, appeared to be a good sort.

5. With respect to the cure, I have long wondered to find such manifestly contrary indications as this disease seemed to exhibit. For it was very evident that a hot regimen immediately caused such symptoms as proceed from a too violent inflammation, viz. a delirium, purple spots, and the like, whereto this disease is chiefly subject; and, contrarywise, too cool a regimen prevented the swelling of the face and hands, which is highly necessary here, and sunk the eruptions. But after a long and thorough consideration of these matters, I at length found that I could remedy both these inconveniencies at the same time. For by allowing the free use of milk boiled with three parts of wa-

ter, small beer, or some similar liquor, I was enabled to check the commotion of the blood ; and, on the other hand, by keeping the patient constantly in bed, with his arms covered, the filling of the pustules and the swelling of the hands and face were promoted by the moderate warmth thereof. Nor does this method contradict itself ; for after the eruption is over, it is to be supposed that the blood hath thrown out the inflamed particles upon the habit, and therefore needs no stimulus in order to a further secretion of the matter ; so that, as the principal affair lies now in the habit of the body, and promoting the suppuration of the pustules, all that is to be done, with respect to the blood, is, to prevent its being injured by the hot vapours that may strike in from the skin covered therewith ; and with respect to pustules, they are to be brought to suppuration by the gentle heat of the external parts.

6. But though this method succeeded well in the other kinds of the confluent small pox, it nevertheless failed in that of this constitution ; for most of those died who had it in a violent degree, whether they were treated by my method, or by the hot regimen and cardiacs. I was very sensible therefore, that besides the medicines which served to check the ebullition of the blood, or promote the elevation of the pustules, and the swelling of the face and hands, there was further required a medicine of sufficient force to overcome the putrefaction, which appeared to be much greater in this sort than any other I had observed. At length I thought of spirits of vitriol, which I conceived might answer both intentions, viz. 1. check the progress of the putrefaction, and 2. mitigate the vehement heat. Whereupon, leaving the patient to himself, without doing any thing till the pain and vomiting preceding the eruptions were gone off, and all the pustules came out, at length on the fifth or sixth day I allowed small beer, gently acidulated with spirits of vitriol, to be taken at pleasure for common drink, recommending it to be drank more plentifully upon the approach of the suppuratory fever, and the use of it to be continued daily till the patient recovered.

7. This spirit, as if it were truly a specific in this disease, surprisingly abated all the symptoms ; the face swelled earlier, and in a greater degree, the spaces between the eruptions inclined more to a bright red colour, like that of a damask rose ; the smallest pustules also became as large as this kind would allow ; and those, which had otherwise been black, discharged a yellow matter, resembling a honey comb ; the face, instead of being black, appeared every where of a deep yellow ; lastly, the eruptions came sooner to suppuration and ran through all their stages a day or two sooner than usual. In this manner did the disease proceed, provided the patient drank freely of the liquor above commended ; so that when I found there was not enough of it

drank to take off the symptoms, I exhibited some drops of the spirits of vitriol between whiles, in a spoonful of some syrup, or a mixture of some distilled water and syrup, in order to make amends for the sparing use of the above-mentioned liquor.

8. I have now enumerated the many advantages of this medicine, and indeed I have not hitherto found the least inconvenience from the use thereof; for though it mostly stopt the salivation on the tenth or eleventh day, yet some stools usually succeeded at this time instead of it, which were less dangerous than that stoppage; for, as we have often mentioned, such as have the confluent small pox are principally endangered on these days, because the saliva, being rendered more viscid, does then threaten suffocation. But in the present case, this symptom is relieved by the looseness, and either goes off spontaneously, or is easily cured by the milk and water, and an opiate, when the danger from the small pox is quite over.

9. Though the patient by my order kept his bed during this time, and his arms in bed, I suffered no more clothes to be laid upon him than he was accustomed to when in health; and permitted him to change place as often as he pleased, to prevent his sweating, to which he was extremely subject, notwithstanding this remedy. In the mean time he supped water gruel and barley broth, and sometimes eat a roasted apple. Towards the decline of the disease, in case of faintness, or sickness at stomach, I allowed three or four spoonfulls of canary; but, after the fifth or sixth day, I ordered a composing draught (earlier than usual) every evening for grown persons, for children had no occasion for it: the draught was fourteen drops of liquid laudanum in a little cowslip water.

10. On the fourteenth day I allowed the patient to rise; on the twenty-first directed bleeding in the arm, and then purged him twice or thrice, after which he had a better colour, and looked brisker than those usually do whom this disease has so severely treated. Besides, this method generally preserved the face from those unseemly scars, which are occasioned by the corrosion of the skin from hot humours.*

11. On the twenty-sixth of July, 1675, Mr. Elliott, one of the grooms of the bed-chamber to the king, committed one of his servants to my care, who had this ill-conditioned sort of black small pox coming out. He was about eighteen years of age, of a very sanguine constitution, and was attacked with this distemper soon after hard drinking. The pustules were of the

* We see in this practice another instance of our author's disregard to the influence of a chronic disease upon the system in forbidding blood letting; and of its salutary effects.

confluent kind, and ran together more than any I had hitherto seen, so that scarce any intermediate space was left between them. Relying upon the virtue of this efficacious medicine, I omitted bleeding, though I was called in soon enough to have done it, and ought indeed to have ordered it, as the disease was occasioned by drinking too much wine. When the eruption was over, viz. on the fifth or sixth day, I ordered spirit of vitriol to be dropped into some bottles that were filled with small beer, and allowed this liquor to be drank at pleasure for common drink. On the eighth day he bled so much at the nose, that the nurse, terrified by this symptom, sent in great haste for me. And as soon as I came, perceiving that this hæmorrhage arose from the immoderate heat and unusual commotion of the blood, I ordered him to drink still more freely of the acidulated small beer, whereby the flux of blood was soon stopt. The salivation being plentiful enough, and the swelling of the face and hands, and the filling of the pustules proceeding in a proper manner, the disease went on very well, except that in the decline thereof some bloody and mucous stools succeeded, which might have been prevented perhaps by bleeding in the beginning, for the reason abovementioned. Nevertheless, I used no other medicine in the dysentery but the composing draught, which I should have ordered to be taken every evening, if this symptom had not happened; and by this means it was checked, till the eruptions went off; and afterwards, upon taking away a sufficient quantity of blood from the arm, and drinking plentifully of milk and water, the patient soon recovered.

12. About the same time, Mr. Clinch, a neighbouring gentleman, committed two of his children to my care; one was four years of age, the other sucked, and was not six months old; the eruptions were very small and confluent in both, and of the black kind, and came out like an erysipelas. I directed spirit of vitriol to be dropt in all their drink, which, notwithstanding their tender age, they drank without any aversion; and not being seized with any worse symptom, they soon recovered. My intimate friend, Dr. Mapletoft, accompanying me to visit them, found the eldest recovering, and the youngest then lying ill in the cradle.

13. But it must be noted, that as the distinct sort of the small pox of this constitution was very mild, it needed not this remedy; the method we have before laid down, for the treatment of the distinct kind, sufficing here.

14. I have now given the reader all my observations relating to the small pox; and though they may perhaps in this censorious age be esteemed of little moment, yet I have with great pains and care spent many years in making of them; nor had I

now published them, if a design of benefiting mankind had not induced me to it, even at the expence of my reputation, which I am sensible will suffer on account of the novelty of the method. And yet I cannot conceive why a new way of curing a disease, not to be met with in Hippocrates, or Galen, (unless perhaps some passage in their writings have a forced interpretation put upon it) should be disliked, since the methods of cure appropriated by the modern physicians, not having been established by those two great lights of physic, may as reasonably be rejected by some, as magnified by others.

15. And for the same reason it should not seem strange, that I have made some alteration in the method of curing those fevers, which depend on such constitutions as are epidemic with the small pox. For if the small pox never appeared in those early ages, it follows likewise that such fevers never existed. Now it is highly probable there was no small pox to be found at that time; for if this distemper had been as common then as it is now, I am of opinion it could not have been concealed from the sagacious Hippocrates, who, as he understood the history of diseases better, and has described them more accurately, than any of his successors, would also have left us, (according to his custom) a plain and genuine description of this disease.

16. Hence therefore I conjecture, that diseases have certain periods, resulting from the secret and hitherto unknown alterations happening in the bowels of the earth, that is, according to the different age and continuance of the same. And that as some diseases have existed in former ages, that are now either quite extinct, or at least appear very seldom, as being wasted with age, such as the leprosy, and perhaps some others; so the diseases which now prevail, will at length vanish, and yield to other new species, of which indeed we can form no idea. This may be the case, whatever notions we form of this matter, who were born, as it were but yesterday, and to-morrow perhaps may die; nor are the practical observations of the ancients of much longer standing, if compared with the beginning of the world.

CHAP. V.

OF THE EPIDEMIC COUGH OF THE YEAR 1675, AND THE PLEURISY AND PERIPNEUMONY WHICH FOLLOWED UPON IT.

1. IN 1675, the season having continued unusually warm, like summer, till towards the end of October, and being suddenly succeeded by cold and moist weather, a cough became more frequent than I remember to have known it at any other time ; for it scarce suffered any one to escape, of whatever age or constitution he were, and seized whole families at once. Nor was it remarkable only for the numbers it attacked (for every winter abundance of persons are afflicted with a cough) but also on account of the danger that attended it. For as the constitution, both now and during the preceding autumn, eminently tended to produce the epidemic fever above described, and as there was now no other epidemic existing, which by its opposition might in some measure lessen its violence, the cough made way for, and readily changed into the fever. In the mean while as the cough assisted the constitution in producing the fever, so the fever on this account attacked the lungs and pleura, just as it had affected the head even the week preceding this cough ; which sudden alteration of the symptoms occasioned some, for want of sufficient attention, to esteem this fever an essential pleurisy or peripneumony, though it remained the same as it had been during this constitution.*

2. For it began now, as it always did, with a pain in the head, back, and some of the limbs ; which were the symptoms of every fever of this constitution, except only that the febrile matter, when it was copiously deposited in the lungs and pleura, through the violence of the cough, occasioned such symptoms as belong to those parts. But nevertheless, as far as I could observe, the fever was the very same with that which prevailed to the day when this cough first appeared ; and this likewise the remedies to which it readily yielded plainly shewed. And though the pungent pain of the side, the difficulty of breathing, the colour of the blood that was taken away, and the rest of the symptoms that are usual in a pleurisy, seemed to intimate that it was an essential pleurisy ; yet this disease required no other method of cure than that which agreed with the fever of

* The disease described in this section, appears to be the influenza.

this constitution, and did no ways admit of that which was proper in the true pleurisy, as will hereafter appear. Add to this, that when a pleurisy is the original disease, it usually arises betwixt spring and summer; whereas the distemper we now treat of, begun at a very different time, and is only to be reckoned a symptom of the fever which was peculiar to the current year, and the effect of the accidental cough.

3. Now in order to proceed in a proper manner to the particular method of cure, which experience shows to be requisite both in this cough and in those which happen in other years, provided they proceed from the same causes, it is to be observed, that the effluvia which used to be expelled the mass of blood by insensible perspiration, are struck in, and thrown upon the lungs, from the sudden stoppage of the pores by cold, and, by irritating the lungs, immediately raise a cough. And the hot and excrementitious vapours of the blood being hereby prevented from passing off by perspiration, a fever is easily raised in the mass; namely, when either the vapours are so copious that the lungs are unable to expel them, or the inflammation is increased by the adventitious heat arising from the use of over-heating remedies, or too hot a regimen, so as suddenly to cause a fever in a person who was already too much exposed to one. But of whatever kind the stationary fever be, which prevails the same year, and at that time, this new fever soon assumes its name, becomes of the same kind, and in most particulars resembles it: though it may still retain some symptoms belonging to the cough, whence it arose. In every cough, therefore, proceeding from this cause, it is sufficiently manifest that regard must not only be had to the cough, but likewise to the fever that so readily succeeds it.

4. Relying on this foundation I endeavoured to relieve such as required my assistance by the following method: if the cough had not yet caused a fever, and other symptoms, which, as we said, usually accompany it, I judged it sufficient to forbid the use of flesh meats and all kinds of spirituous liquors, and advised moderate exercise, going into the air, and a draught of a cooling pectoral ptisan to be taken between whiles. These few things sufficed to relieve the cough, and prevent the fever, and other symptoms usually attending it. For as by abstaining from flesh and spirituous liquors, along with the use of cooling medicines, the blood was so cooled, as not easily to admit of a febrile impression, so by the use of exercise, those hot effluvia of the blood, which strike in, and occasion a cough, as often as the pores are stopt by sudden cold, are commodiously exhaled in the natural and true way, to the relief of the patient.

5. With respect to quieting the cough, it is to be observed that opiates, spirituous liquors, and heating medicines used for

this purpose are equally unsafe; for the matter of the cough being intangled and stiffened thereby, those vapours which should pass off from the blood, in a gentle and gradual manner, by coughing, are retained in the mass, and raise a fever. And this frequently proves very fatal to abundance of the common people, who, whilst they unadvisedly endeavour to check the cough, by taking burnt brandy and other hot liquors, occasion pleuretic or peripneumonic disorders; and by this irrational procedure, render this disease dangerous, and often mortal, which of its own nature is slight, and easily curable. Neither do they err less, though they seem to act more reasonably, who endeavour to remove the cause of the disease by raising sweat; for though we do not deny that spontaneous sweats frequently prove more effectual than all other helps in expelling the morbid cause, yet it is apparent that whilst we attempt to force sweat, we inflame the blood, and may possibly destroy the patient, whom we desire to cure.

6. But it happens sometimes, not only when the disease has been unskilfully treated, in the manner above described, but also spontaneously, at the beginning of the illness, or in a day or two afterwards, especially in tender and weakly persons, that the cough is succeeded by alternate intervals of heat and cold, a pain in the head, back, and limbs, and sometimes a tendency to sweat, especially in the night; all which symptoms generally followed the fever of this constitution, and were frequently joined with a pain in the side, and sometimes with a constriction as it were of the lungs, which occasioned a difficulty of breathing, stopped the cough, and increased the fever.

7. According to the best observation I could make, the fever, and its most dangerous symptoms, were best relieved by bleeding in the arm, applying a blister to the neck, and giving a glyster every day. In the mean time, I advised the patient to sit up some hours every day, to forbear flesh meats, and sometimes to drink small beer, sometimes milk and water, and sometimes a cooling and lenient ptisan. If the pain of the side abated not in two or three days, but continued very violent, I bled a second time, and advised the continuance of the glysters. But with respect to glysters, it must be carefully observed, either in this or in other fevers, that they are not to be long and frequently used when the disease is in its decline; especially in hysteric women, and in men that are subject to the hypochondriac disease; for the blood and juices of such persons are easily changed, and soon agitated and heated, whence the animal œconomy is disturbed, and the febrile symptoms continued beyond the usual time.

8. But to return to our subject: whilst by this means we allowed time that the blood might gradually free itself from those

hot particles that were lodged in the pleura and lungs, all the symptoms usually went off in a gentle manner ; whereas when the disease was treated in a rough way, by giving abundance of remedies, it either destroyed the patient, or rendered it necessary to repeat bleeding oftener than the disease required, or would safely bear, in order to save his life ; for though repeated bleeding answers every purpose in the true pleurisy, and is alone sufficient for the cure thereof, provided there be no hindrance from a hot regimen and heating medicines, yet here, on the contrary, it sufficed to bleed once, or at most twice, in case the patient refrained from bed, and drank cooling liquors. And I never found it necessary to bleed more frequently, unless the symptoms relating to the pleura and lungs were much increased by some adventitious heat, and even in this case the practice was not wholly devoid of danger.

9. Upon this occasion I shall briefly deliver my sentiments with respect to a very trite and common opinion, viz. that a pleurisy is found to be of so malignant a nature in some years, that it will not then bear bleeding, at least not so often as this distemper ordinarily demands. Now though I conceive that a true and essential pleurisy, which, as shall hereafter be observed, happens indifferently in all constitutions, does in all years equally indicate repeated bleeding ; yet it sometimes happens that the peculiar epidemic fever of the year, from some sudden alteration of the manifest qualities of the air, readily throws off the morbid matter upon the pleura and lungs, whilst the fever notwithstanding continues exactly the same. Wherefore in this case, though bleeding may be used to abate this symptom when it is very violent, yet generally speaking, little more blood ought to be taken away than is required by the fever whereon this symptom depends ; for if the fever be of a kind that will bear frequent bleedings, it may likewise be repeated in the pleurisy, which is a symptom thereof ; but if the fever will not bear repeated bleeding, it will prove prejudicial in the pleurisy, which will go off with, or last as long as the fever does. And in my judgment this was the case in the symptomatic pleurisy that accompanied the fever which prevailed here at the same time the cough began, namely, in winter, in 1675; and therefore I must observe that whoever, in the cure of fevers, hath not always in view the constitution of the year, inasmuch as it tends to produce some particular epidemic disease, and likewise to reduce all the contemporary diseases to its form and likeness, proceeds in an uncertain and fallacious way.*

* The pleurisy described in this section, appears to be the bilious pleurisy so well known in the southern parts of the United States.

10. In the month of November, of the above-mentioned year, I attended the eldest son of Sir Francis Windham in this fever. He complained of a pain in his side, and the other symptoms that attended those who had this disease. I bled him but once, applied a blister to his neck, injected glysters every day, gave him cooling ptisans and emulsions, and sometimes milk and water, or small beer to drink, and advised his sitting up a few hours every day; and by this method he recovered in a few days, and a purge completed the cure.

11. But it must be remarked, that though these were the common symptoms which succeeded the cough, during this winter, yet the cough, unattended with these symptoms, was more prevalent at the same time. But this required neither bleeding nor glysters, provided a fever was not occasioned by a hot regimen, or heating medicines; it sufficed to allow the benefit of the open air, and to forbid the use of flesh, wine, and such spirituous liquors, which are apt to cause a fever. I likewise ordered the following troches to be taken often, which indeed are the best I know for stopping coughs occasioned by taking cold.

Take of sugar candy, two pounds and a half; boil it in a sufficient quantity of common water till it sticks to the fingers ends: then add of powder of liquorice, elecampane, and seeds of annise and angelica, each half an ounce; powder of Florentine orrice-root, and flour of brimstone, each two drams: oil of anniseed, two scruples; make the whole into troches with the requisite art; which the patient should always carry in his pocket, taking one of them frequently.

12. Before I conclude this essay on epidemic diseases, I must answer an objection that I foresee will be made to part of it, viz. that it does not seem sufficient to oppose the malignity that accompanies many of these diseases. It is not my design, nor am I able, to confute the received opinion of the learned, whether ancients or moderns, in relating to malignity, since there are plain proofs of it in most epidemics. I only beg leave to give my sentiments of the nature of this malignity, to prove the reasonableness of my practice. For I may say, with the

It assumes different grades, according to the nature of the bilious fever which preceded it. It is Synochus fortis, Synocha, Synochus mitis, typhoid and typhus. *More* copious bleeding is necessary in the first and second, than when the bilious fever, or pleurisy exist separately. One bleeding is generally sufficient in the third. In the fourth and last grades, bleeding is not only forbidden, but bark, opium and wine are indicated.

very learned Scaliger, "I do not contend for my own opinion, but for reason, or what carries the appearance of it, without regarding what some censorious persons assert."

13. I conceive then that the malignity in epidemics, whatever its specific nature may be, consists and centers in very hot and spirituous particles, that are more or less opposite to the nature of the circulating fluids, because such particles are only capable of producing so sudden an alteration of them, as is frequently observed in malignant diseases. And I judge that these hot and spirituous particles act chiefly by way of assimilation; because by the law of nature every active principle endeavours to produce its like, and to reduce and mould whatever opposes it to its own nature. Thus fire generates fire, and a person seized with a malignant disease infects another by an emission of spirits, which soon assimilate the juices to themselves, and change them into their own nature.

14. From these considerations it follows, that it is best to expel these particles by sweat, since by this means the disease would be immediately eradicated. But experience contradicts this, and shews it cannot be done in every kind of malignity. For though in the plague, the pestilential particles, both by reason of their exceeding subtilty, and their residing in the most spirituous parts of the blood, are dissipable, and may be expelled by a continued sweat; yet in other fevers, where the assimilating particles are less subtile, and mixed with grosser humours, the malignant fuel cannot only not be expelled by sweat, but is frequently increased by the diaphoretics given to promote it. For the more active those hot and spirituous particles are rendered by heating medicines, the more is their power of assimilating increased; and the more likewise those juices are heated whereon they act, so much the more readily are they assimilated, and yield to the impression thereof. Whereas contrariwise it is reasonable to think, that medicines of an opposite nature do not only restrain the action of the hot and acrid particles, but likewise thicken and strengthen the juices, so as to enable them to undergo, or even to conquer the force of the morbidic spirits. And here I may appeal to experience, which hath taught me that the purple spots in fevers, and the black eruptions in the small pox, increase more readily in proportion as the patient is heated; and that according to the coolness of the regimen employed, which is very suitable to them, they are used to decrease and be diminished.

15. Now were it to be inquired whence it happens, since malignity consists in such hot and spirituous particles, that so few signs of a fever are frequently found in the most malignant diseases; it might be answered, first, that in the plague, the most remarkable instance of malignity; the morbidic particles are so

very subtle, especially in the beginning, that though they pass through the blood with the utmost velocity, and (the spirits being, as it were, fixed or congealed) raise no ebullition therein, whence the patient dies without a fever.

16. But in other epidemics, accompanied with a less degree of malignity, the febrile symptoms are sometimes so slight, from the disturbance raised in the blood by the morbid particles contained in the mass, that nature being in a manner oppressed, is rendered unable to produce the more regular symptoms that are suitable to the disease. and almost all the phenomena that happen are irregular, by reason of the entire subversion of the animal œconomy; in which case the fever is often deprest, which of its own nature would be very high. Sometimes also fewer signs of a fever appear than the nature of the disease requires, from the translation of the malignant cause, either to the nervous system, to some other parts of the body, or to some of the juices not contained in the blood, whilst the morbid matter is yet turgid.

17. But which way soever it be, I cannot even so much as conjecture what other method of cure ought to be used to conquer the malignity, besides that which is suitable to the epidemic wherewith it is joined. So that whether the epidemic be of the number of those wherein the febrile matter must first be concocted, and soon after properly expelled by sweat; or of those that are terminated by some eruption; or of those that require the assistance of art to make way for them: in all these kinds, the malignity, which is the concomitant of the disease, will rise, and sink, continue, and go off with the original disease; and consequently whatever evacuation agrees in general with the fever, agrees likewise with the malignity, how much soever these evacuations may be of a contrary nature to each other. Hence the malignity that accompanies autumnal intermittents, and also the continued fever, which is of the same nature, will yield to a sweat, which follows concoction as its effects. And the seasonable suppuration of the pustules in the small pox will carry off the malignity attending that disease, and so of the rest: in all which the peculiar species of malignity is best overcome by those methods which prove most successful in the cure of those diseases whereto it belongs, whether by this or

* I have called the fever when accompanied with these symptoms of oppression, the suffocated state of fever. It occurred in many instances in the epidemic yellow fevers which lately appeared in Philadelphia. The skin was cool and the pulse natural, or below it in force and frequency. Where bleeding was not used early (the effects of which were to excite a fever) the patient generally died. Stimulants hastened death in such cases.

any other procedure. This appears evident to me from reason, and is likewise universally confirmed by experience.*

CHAP. VI.

THE RECAPITULATION.

1. AND thus we have, at length, shewn, that the space of years which furnished us with the preceding observations, produced five different kinds of constitutions, that is, five peculiar dispositions of the air, productive of as many peculiar epidemic fevers. But the first of these fevers, which prevailed in those years wherein autumnal intermittents chiefly raged, seems to be the only one, as far as I have hitherto observed, in which nature regulated all the symptoms in such manner as to fit the febrile matter, prepared by proper concoction for expulsion, in a certain time, either by a copious sweat, or copious perspiration; and upon this account I call it the depuratory fever. And in reality I am inclined to believe, that this is the capital and primary fever of nature, as well with respect to the regular method which nature uses in promoting and accomplishing the digestion of the morbid matter in a limited time, as also because it occurs more frequently than other fevers.†

2. For it is probable that intermittent fevers oftener prevail epidemically than all other diseases, if those authors may be credited who have wrote so largely of their frequency in former ages, whatever may be the reason of their appearing so seldom since the plague depopulated this city; for the pestilential fever was the forerunner of all the inflammatory fevers that afterwards

* The advice contained in this section does not appear to be well founded. Malignity is a unit in its causes and nature, and requires the same treatment in all the diseases in which it occurs. After it is subdued by art, the usual tendencies of nature may be followed in the cure of the reduced grade of the disease.

† The opinion delivered in this section, is a bold and original one. The autumnal fever, or fevers from what Dr. Miller has called *Koinomiasmatic exhalations*, appear to occupy the first rank, in that class of diseases which Dr. Cullen calls *pyrexia*, and it is not improbable that the impression given to the system by these exhalations, dispose most other fevers to assume an intermittent form.

succeeded. But I am mistaken if the necessary and excellent aphorisms, left us by Hippocrates, and other ancient physicians, are not adapted to the primary fever above-mentioned, by means of which it is to be so regulated, that the febrile matter may be prepared for a proper crisis by sweats: nor do I perceive how these aphorisms can be adapted to the succeeding kind of fevers, which being of a very different nature are rarely cured by such a method, as enables us to cure those diseases, provided we embrace and pursue it to the end. But however this be, it is worth observing, that this fever, which depended on that constitution wherein intermittents prevailed over the rest (if it proved of long continuance, or if the patient was weakened by large evacuations) sometimes changed to an intermittent; whereas the fevers that prevailed in the following years, though they continued very long, scarce ever became intermittent; which was a pretty clear proof, that the continued fever and those intermittents differed little in their nature from each other.

3. Now if I should be asked in what manner the species of a continued fever may be gathered from the signs set down by me in the description of fevers, since every particular fever is mostly attended with those symptoms which all fevers have in common, as heat, thirst, restlessness, and the like; I answer, it is indeed difficult, but not impossible, in case all the circumstances enumerated in the preceding history be thoroughly attended to, especially to a physician residing in a city, or other populous place. For let us suppose that he is called to attend a person in a continued fever; he has this in the first place to assist him to form a right judgment of the species, viz. 1. he may easily learn, either from his own observation, or the relation of others, what other diseases besides this fever rage epidemically in those places, and of what kind they are; which being known, he will be no longer in doubt of what kind that fever is, which accompanies the other then reigning epidemic. For though the fever may possibly appear with such symptoms only as are common to all fevers, especially if it be disturbed by a method of cure directly contrary to it, yet other epidemics will clearly discover the signs that are peculiar to its nature and genius.

4. Thus, for instance, whoever sees the small pox, and is well acquainted with the history of it, will easily conjecture, either by the day on which the eruptions came out, or by their size, colour, and the like, to what kind of small pox this particular sort is to be referred; and when he has once discovered that sort of small pox which prevails chiefly in that year, and in those places, he will be no stranger to the species of any fever that then and there prevails. And undoubtedly if I were perfectly acquainted with the history of diseases, which I do not pretend to, as I should not scruple, upon seeing any epidemic, to de-

clare of what kind the reigning fever of that time was, though I had never seen it; so likewise having seen any fever, it would sufficiently teach me what epidemic accompanied it, viz. if the measles, small pox, or dysentery, &c. For some particular species of these diseases, as well as a peculiar fever, constantly attends every particular constitution.

5. 2. Besides the signs, which an attention to the contemporary epidemics affords, the symptoms of every fever let in some light for discovering the species thereof. For though, as we intimated above, all fevers have some symptoms in general, yet there are certain distinguishing signs which nature has particularly affixed to every species; but as these are more latent and obscure, they are usually discovered only by very diligent and accurate observers. Amongst these distinguishing signs, I have always reckoned that sweating or dryness, at a particular time of the disease, chiefly shewed the species of the fever, in case the fever had not been forced from its own natural state by an improper method. And this manifestly appeared to me in all the epidemic fevers which have been treated of in these observations.

6. To give some instances of this: in those fevers which prevailed upon the decline of autumnal intermittents, the external parts were dry, nor was there the least sign of sweat before the concoction of the febrile matter, which was generally completed on the fourteenth day: and in this case it was very dangerous to raise a sweat; a delirium, and other fatal symptoms being immediately occasioned thereby. In the pestilential fever, which followed this, and preceded all the subsequent inflammatory fevers, no spontaneous sweat appeared, but a sweat might be raised in the beginning, by exhibiting sudorifics, and as soon as it flowed all the symptoms went off. In the next succeeding fever, which accompanied the small pox in those years wherein it proved regular, the patient was subject to profuse spontaneous sweats in the beginning of the illness, but by encouraging them, all the symptoms were increased. In the two fevers that accompanied the two irregular kinds of the small pox, and the dysentery, the sweat was likewise irregular, and generally appeared only in the beginning of the disease, though the sweat which accompanied the former fever, was somewhat more copious than that which accompanied the latter; but neither afforded any relief, because the sweat proceeded not from previous concoction, but from the confused motion of the noxious particles.

7. But it seems exceeding difficult to me to discover the species of a new fever in the first year of a constitution, when no body has seen an example of it, or can imagine what epidemic diseases may hereafter arise, which are generally preceded by this fever. It would be tedious to enumerate all the particulars that occurred in those years of which I have treated, whereby

it might appear that many manifest signs were suggested by nature, to enable us to make such discovery ; and consequently this knowledge necessarily depends upon a careful and accurate observation of all circumstances.

8. But though it be difficult, if not impossible, to ascertain the species of a new fever at its first coming, yet with respect to the cure, the indication to be taken from such things as do good or mischief, at least remains to assist us therein ; by means of which we may by degrees find out a way to secure the patient, provided we do not hurry on too fast, which indeed I esteem to be most particularly pernicious, and to have destroyed more persons in fevers than any other thing whatsoever. Nor do I think it below me to acknowledge, with respect to the cure of fevers, that when no manifest indication pointed out to me what was to be done, I have consulted the safety of my patient, and my own reputation, most effectually, by doing nothing at all ; for whilst I carefully attended to the disease, in order to cure it in the best and safest manner, the fever either went off gradually of itself, or came to such a state as shewed what medicines were to be used to remove it. But it is much to be lamented that abundance of sick persons are so ignorant, as not to know that it is sometimes as much the part of a skilful physician to do nothing at all, as, at others, to exhibit the most effectual remedies ; whence they not only deprive themselves of the advantages of a fair and honourable procedure, but impute it either to negligence or ignorance ; whereas the most illiterate empiric knows how to heap medicine on medicine as well as the most prudent physician, and usually does it in a much greater degree.

9. And now I have communicated the observations I have hitherto made (at least such as could be brought into some method) with respect to the species of epidemic diseases, and the order wherein they succeeded from 1661 to the end of 1675 ; when the small pox and the continued fevers which accompanied it, and had prevailed for near two years, became more gentle, and seemed to be going off. As to the diseases that may hereafter succeed, they are only known to that omniscient Being from whom nothing is hid.

SECTION VI.

CHAP. I.

OF INTERCURRENT FEVERS.

1. THE observations of the preceding years, above delivered, sufficiently shew that some fevers are deservedly entitled stationary fevers ; I mean such as arise from some peculiar constitution of a particular year not yet sufficiently known. Every one of these prevails in its order, and rages with great violence, having, as it were, the ascendant over all the rest during that continued course of years. Whether there are any other species besides those just mentioned, or whether they succeed each other in a certain term of years in a constant and invariable order, or whether it be otherwise, I have not yet been able to discover. But there are also other continued fevers, which, though they sometimes rage less, and at other times more severely, yet because they are mixed with all kinds of stationary fevers, and likewise with each other indifferently in the same year, I conceive they should be called intercurrents. I shall in the following sheets communicate all that I have learnt from observation concerning the nature of these fevers, and the method of curing them : they are, the scarlet fever, pleurisy, bastard peripneumony, rheumatism, erysipelatous fever, the quinsy, and perhaps, some others.

2. But as all these diseases are, during their state, or at least were, accompanied with a fever, till it went off, the febrile matter being thrown upon some particular part, according to the nature of the distemper, I question not that the fever is to be accounted the primary disease, and that the other disorder, whence those diseases generally derive their name, are symptoms, which chiefly regard either the peculiar manner of the crisis, or the part principally affected. But provided the thing be agreed upon, I will not contend about names ; though I take the liberty to call a disease by the particular name which pleases me best.

3. It must be observed, that as the stationary fevers, of which we have treated above, prevailed more or less epidemically, as we said, according as they were favoured by the constitution of years, resulting from a secret and inexplicable temperature of the air ; so likewise did these intercurrents sometimes, but less frequently. For though they generally arise from some peculiar disorder of particular bodies, whereby the blood and juices are

some way vitiated, yet sometimes they proceed mediately from some general cause in the air, which, by its manifest qualities, so disposes the human body, as to occasion certain disorders of the blood and juices, which prove the immediate causes of such epidemic intercurrents. As for instance, when a sharp frost, which has lasted a long time, and continues late in the spring, is suddenly succeeded with warmer weather, pleurisies, quinsies, and the like diseases usually arise, whatever be the general constitution of the year. And because these diseases, which happen indifferently in all years, do sometimes rage as epidemically as those which continue only for a certain course of years, we chuse to call them intercurrents, in order to distinguish them from the latter.

4. But notwithstanding the considerable difference there is between these two kinds of fevers, with respect to the causes proceeding from the air, yet they frequently agree in other external and procataretic causes. For not to mention infection, which sometimes communicates stationary fevers, and surfeits, which give rise to both stationary and intercurrent fevers, the manifest external cause of the greater part of fevers is to be sought for hence; either 1. a person hath left off his clothes too soon, or 2. imprudently exposed his body to the cold after being heated with violent exercise; whence the pores being suddenly closed, and the perspirable matter retained in the body, that would otherwise have passed through them, such a particular kind of fever is raised in the blood, as the then reigning general constitution, or the particular depravity of the juices, is most inclined to produce. And indeed I am of opinion, that abundance more have been destroyed by this means than by the plague, sword, and famine together; for if a physician examines his patient strictly concerning the first occasion of the disease, he will generally find it to proceed from one of these causes, provided it be of the number of those acute diseases we have treated of above. Upon this account I always advise my friends never to leave off any wearing apparel till a month before midsummer; and not to expose themselves to the cold after being heated by exercise.*

5. But it must here be carefully remarked, that though the diseases I am now to treat under the title of Intercurrents, were

* There can be no doubt of the truth of the opinion delivered in this section. Cold appears to be the greatest physical enemy of man. It not only acts by its sensible qualities as a remote cause of winter and spring fevers, but it is the exciting cause of nearly all those summer and autumnal fevers which are produced by putrid exhalations; hence they attack most frequently in the night, and after the coming on of cool weather. Even in the West Indies, cold produces not only more diseases than heat, but more than it produces in northern climates.

most, if not all of them, essential diseases ; yet frequently certain disorders happen in stationary fevers, resembling these intercurrents as to the phenomena, and likewise characterized by the same name, which however are manifest symptoms of those fevers. Now in this case they are not to be treated by the method which is to be used when they are essential diseases, but rather by that which the fever requires, whereof they are now symptoms, which method is only to be slightly adapted to their particular cure ; but, in general, great attention is to be had to the fever of the year, and to find out the easiest method of conquering it, whether by bleeding, sweating, or any other procedure : for if this be disregarded, we shall frequently mistake, to the great detriment of the patient. Should it be objected, that the disorders under consideration, which I term essential, are in reality only symptoms, I reply, that perhaps they may be symptoms with respect to the fever whereto they properly belong, but they are at least symptoms of fevers which always necessarily produce them. To exemplify this matter : in an essential pleurisy the fever is of such a nature, as always to deposite the morbid matter upon the pleura ; in an essential quinsy, of such a nature as always to throw off the morbid matter upon the throat ; and thus it happens in the rest : whereas, when any one of the above-mentioned diseases succeeds a fever that belongs to a particular constitution of years, and is dependent thereupon, it is then produced accidentally only, and no way necessarily : for which reason there is a remarkable difference between them.

6. But in order to distinguish rightly between essential and mere symptomatic disorders, it is of moment to consider that the same symptoms which accompany any particular stationary fever at the beginning, will likewise happen at the same time in a pleurisy or quinsy, when these are only accidental symptoms of such a fever. We had a proof of this in the above-mentioned symptomatic pleurisy, that succeeded the fever which prevailed in this winter of 1675. For all that were seized with the pleurisy were afflicted in the beginning with a pain in the head, back, and limbs, which were the most certain and common symptoms of all those fevers that preceded the pleurisy, and continued after that disease went off. Whereas when either of these intercurrents is the essential disease, it attacks in the same manner in all years indifferently, having nothing at all in common with the then prevailing stationary fever. Besides, all the symptoms that afterwards arise are more apparent, as not being concealed and perplexed by a mixture of other phenomena of a different nature, and belonging to another fever. Again, the time of the year, wherein the greater part of essential intercurrents usually make their appearance, frequently points out the kind of disorders whereto they should be referred. But, lastly, he is best

qualified to discover the diagnostic signs, both of these, and all other diseases, who, by daily and diligent observation, hath searched so intimately into their nature and symptoms, as at first sight to be able to distinguish the genus; though perhaps the characteristic differences of some of them may be so very subtle, that he cannot express them by words to another.

7. But as these different species of fevers, so far as I can learn by carefully considering their concomitants, and the method of cure, proceed from an inflammation of the blood, peculiar to every disease, I place the principal parts of the cure in cooling the blood. In the mean time I always endeavour to expel the morbid matter, by a method of cure, varied according to the nature of the disease, and which experience shows to be readily curative of the particular species thereof. In reality, whoever certainly knows how to expel the febrile matter, either by bleeding, sweating, purging, or any other more proper way, must have the best success in the cure of all fevers.

CHAP. II.

OF THE SCARLET FEVER.

1. **THOUGH** the scarlet fever may happen at any time, yet it generally comes at the close of summer, when it seizes whole families, but especially children. 1. A chillness and shivering come at the beginning, as in other fevers, but without great sickness; 2. afterwards the whole skin is covered with small red spots; which are more numerous, larger, and redder, but not so uniform as those which constitute the measles; 3. they continue two or three days, and after they are vanished, and the skin is scaled off, there remains a kind of branny scales, dispersed over the body, which fall off and come again for twice or thrice successively.*

* I have seen this form of scarlet fever but once, and that was about the year 1764, while I was a student of medicine. The cuticle peeled off after the recovery of the patient in many cases. I was much struck in observing in one instance the cuticle come off from the whole hand and arm of a little girl of twelve years old so entire, that it resembled an inflated woman's glove. I do not recollect this disease being attended with any mortality.

2. As this disease seems to me to be nothing more than a moderate effervescence of the blood, occasioned by the heat of the preceding summer, or some other way, I do nothing that may prevent the despumation of the blood, and the expulsion of the peccant matter through the pores, which is quickly enough performed. Accordingly, I refrain from bleeding, and the use of glysters, which make a revulsion, whereby I conceive the noxious particles are more intimately mixed with the blood, and the motion, which is more agreeable to nature, is checked. On the other hand I forbear cardiacs, by the heat of which the blood may perhaps be put into a more violent motion, than so gentle and mild a separation as effects the cure require; and besides by this means a high fever may be occasioned. I judge it sufficient for the patient to refrain wholly from flesh, and all kinds of spirituous liquors, and to keep his room, without lying always in bed. When the skin is entirely peeled off, and the symptoms vanished, it is proper to give a gentle purge, suited to the age and strength of the patient. By this plain and manifestly natural method, this disease in name only, for it is little more, is easily cured without trouble or danger; whereas on the contrary, if we add to the patient's evils, either by confining him continually in bed, or exhibiting abundance of cardiacs, and other superfluous remedies, the disease is immediately increased, and he frequently falls a victim to the over-officiousness of the physician.

3. But it should here be observed, that when epileptic convulsions, or a COMA, arise in this disease at the beginning of the eruptions, which sometimes happened to children and young persons, it is highly proper to apply a large and strong blister to the neck, and immediately exhibit a paretic of syrup of white poppies, which is to be repeated every evening during the illness; and he must be directed to make use of milk, boiled with thrice its quantity of water, for his ordinary drink, and to refrain from flesh.

CHAP. III.

OF THE PLEURISY.

1. THIS disease, which is one of the most frequent, happens at any time, but chiefly between spring and summer; for the blood, being then heated by the fresh approach of the sun, is much disposed to fermentations and immoderate commotions. It

chiefly affects the sanguine, and frequently also attacks country people, and such as have been used to hard labour. It generally begins 1. with a chillness and shivering, which are followed 2. by heat, thirst, restlessness, and the other well-known symptoms of a fever; 3. in a few hours (though sometimes this symptom comes much later) the patient is seized with a violent pungent pain in one side, near the ribs, which sometimes extends towards the shoulder blades, sometimes to the spine, and sometimes towards the breast; 4. a frequent cough likewise afflicts the patient, and occasions great pain by shaking and distending the inflamed parts, so that he sometimes holds his breath to prevent the first efforts of coughing; 5. the matter expectorated, at the beginning of the disease is small in quantity, thin, and often streaked with blood; but in the course thereof it is more copious, and more concocted, and likewise mixed and coloured with blood; 6. in the mean time the fever keeps pace, and even grows more violent with the symptoms arising therefrom; till at last, in proportion to the freer expectoration of the morbid matter, both the fever and its dreadful concomitants, as the cough, spitting of blood and pain, &c. abate by degrees.

2. 7. But the matter productive of this disease does not always undergo such a concoction in the course thereof, as fits it for expectoration; for it frequently remains thin, and only a small quantity is expectorated, as in the beginning, and consequently the fever and its concomitants remit not at all till they prove mortal. 8. In the mean time, the belly is sometimes too costive, and at others too soluble, the stools being both frequent and very liquid; 9. sometimes when the disease proves extremely severe, and bleeding has been omitted, the patient cannot so much as cough, but having a great difficulty of breathing, is almost suffocated by the violence of the inflammation, which is sometimes so very considerable, that he cannot dilate his breast sufficiently for respiration, without very acute pain; 10. and sometimes, when the inflammation has been violent, and bleeding omitted, which should have been used at the beginning, an imposthume is soon occasioned, the matter being emptied into the cavity of the breast, in which case, though the original fever either goes off entirely, or at least abates, yet the danger is not over; for an empyema and an hectic fever succeed, and the patient is destroyed by a consumption.

3. Now though the pleurisy proceeds from that peculiar and specific inflammation of the blood, which usually produces it when it is a primary disease, yet it sometimes accidentally succeeds other fevers, of whatever kind they be, occasioned by the sudden translation of the febrile matter to the pleura, or intercostal muscles. This indeed happens in the very beginning of the fever, while the febrile matter is yet in a state of crudity, and not over-

come by a due ebullition, and consequently not fitted for a proper separation by the most convenient outlets. But it is most frequently caused by an unseasonable use of such heating medicines, as are usually given by some great ladies to persons in low circumstances; whose charity, in the mean time, would be much better placed in feeding the necessitous than in curing their diseases. But this, it seems, they do to raise sweat at the beginning of the disease, little dreaming of the ill consequences thence arising; for nature, being hereby disturbed, is forced to expel the yet crude humours through the first passage that offers; whence the febrile matter is sometimes hurried violently to the meninges, and occasions a delirium, and sometimes to the pleura, and occasions a pleurisy; especially when the age, constitution of the patient, and the season of the year, namely, that between spring and summer, jointly concur thereto: for in that season fevers are apt to turn to pleurisies.

4. Now the colour of the blood that is taken away in a pleurisy, seems to shew that this disease arises from the sudden translation above mentioned, for at the second bleeding at least, the blood when cold, looks like melted tallow to a considerable thickness, but the top resembles true pus, and yet it is very different from that, as being very fibrous like the rest of the blood, and not fluid like pus; and upon separating this part from the rest, it appears like a tough fibrous skin; and perhaps it is only the sanguineous fibres, which having lost their natural red covering by precipitation, have hardened into this whitish membrane or pellicle by the coldness of the air;* but let it be observed here by the way, that though the blood flows ever so fast, yet if it does not stream horizontally from the open vein, but runs perpendicularly down along the skin, it is frequently of another colour, which I confess I cannot account for, and such a bleeding is also less serviceable. I have likewise observed, that if blood that is newly taken away, be stirred about with the finger, the top will appear of a red florid colour, as in any other disease, in what manner soever it flowed. But whatever be the appearance of the blood, this disease, though it has a bad name, and is in its own nature more dangerous than most others, is easily conquered by proper treatment, and indeed with as much certainty as any other distemper.

* It is remarkable that our author gives the same name to the coagulating part of the blood which it has received in modern times, and that his account of the manner in which it is formed, accords exactly with what is now universally admitted by physiologists. He calls the fibrin of the blood a membrane. It is certain a membrane is formed from it in inflammatory fevers in which sufficient blood-letting has not been employed.

5. Having thoroughly considered all the various phenomena of a pleurisy, I conceive it to be only a fever occasioned by a peculiar inflammation of the blood, whereby nature throws off the peccant matter upon the pleura, and sometimes upon the lungs, whence a peripneumony arises; which, in my opinion, only differs from a pleurisy in degree, and in respect of the great violence, and larger extent of the same cause.*

6. In order therefore to cure this disease, I have the following ends in view; 1. to check the inflammation of the blood, and 2. to make a revulsion of the inflamed particles, fixed upon the pleura by proper evacuation.

Depending therefore chiefly on bleeding, as soon as I am called in, I order about ten ounces of blood to be drawn from the arm of the affected side, and the following draught to be taken immediately after the operation.

Take of the distilled water of red poppies, four ounces; the salt prunella, one dram; syrup of violets, one ounce; mix them together for a draught.

At the same time I prescribe the following emulsion:

Take seven blanched sweet almonds, the seed of melons and pumpkins, of each half an ounce; the seeds of white poppies, two drams; beat them together in a marble mortar; then pour on by degrees a pint and half of barley water; mix them well, and when strained add two drams of rose water, and half an ounce of white sugar.—Let four ounces be taken every fourth hour.

I also ordered pectorals to be taken frequently, e. gr.

Take of the common pectoral decoction, a quart; syrup of violets and maidenhair, of each an ounce and half; mix them together for an apozem, of which let half a pint be taken three times a day.

Take of fresh oil of sweet almonds, two ounces; of maidenhair and violets, each an ounce; white sugar, half a dram; mix them together, and make a linctus, according to rules of art.—A small quantity of this is to be swallowed leisurely often in a day.

* Pleurisy and Peripneumony, are here justly said to be different grades of the same disease. This is admitted even by some of the nosologists, under the general name of Pneumonia

Fresh oil of sweet almonds alone, or linseed oil, is also frequently used with great advantage.

7. As to diet, I forbid all flesh meats and the smallest flesh broths, and advise the patient to sup barley broth, water gruel, and panada; and to drink, a ptisan made of pearl barley, sorrel and liquorice roots, &c. boiled in water, and sometimes small beer. And I also prescribed the following liniment:

Take of oil of sweet almonds, two ounces; pomatum and ointment of marshmallows, of each an ounce: mix them together for a liniment, with which let the side affected be anointed morning and night, applying a cabbage leaf thereto.

I direct the above-mentioned remedies to be continued the distemper throughout.

8. On the same day (the first of my attendance) if the pain be very acute, I order as much blood to be again taken away; or else the next day, and so the third day; and if the pain and other symptoms rage severely, I bleed in this manner four days running. But if 1. the disease be less violent and dangerous, and therefore allows me to proceed in a gentler manner; or if 2. the patient be too weak to bear repeated bleeding at such short intervals, then, after bleeding twice, I interpose a day or two between every bleeding afterwards. In this case I make the contra-indications my rule; considering on the one hand the violence of the disease, and comparing it with the weakness of the patient on the other. And though in the cure of diseases I would always be suffered to take away more or less blood, as the case requires, yet I have seldom known a confirmed pleurisy cured in grown persons without the loss of about forty ounces of blood. In children, however, it is generally sufficient to bleed once or twice. Nor does a looseness, which sometimes happens, obstruct the above-mentioned repeated bleeding; for in reality it may soon be stopped hereby, without exhibiting astringents.*

* Our author wisely prefers moderate, but repeated bleedings, to such as are copious and not frequent. The system accommodates more easily to the former, than to the latter. The quantity of blood to be drawn in order to cure a pleurisy in the United States, is often more than double the quantity mentioned by our author. Children in our country not only bear, but require four or five, and sometimes more bleedings, to cure them of this disease. Neither a natural, nor an artificial diarrhoea afford any relief to the lungs. The former is checked, as in several diseases formerly mentioned, by bleeding.

9. I either refrain from glysters entirely, or order only simple ones of milk and sugar, and take care to have them injected at as great a distance between the bleedings as possible.

10. To prevent the patient's being overheated during the continuance of the distemper, I allow him to sit up a few hours every day, as his strength will permit; which indeed is of such moment here, that if he be kept always in bed, neither the plentiful evacuations of blood, nor the most cooling remedies, will sometimes at all avail in conquering the symptoms above specified.

11. Immediately after the last bleeding, and sometimes before, all the symptoms abate, and the patient soon recovers his former strength, when it is proper to give some gentle purgative; and he should be debarred for some days longer from gross foods, and all kinds of spirituous liquors.

12. But if it be said here, that our method is defective, because we are so far from treating amply of the means of promoting expectoration in the different stages of the disease, that we scarce mentioned them; we reply, that this has not been omitted through negligence, but purposely, after mature consideration, as having always judged those to be in great danger who trusted the cure of this disease to expectoration. For not to mention the tediousness of this method, by which nature endeavours to expel the morbid matter, it is likewise unsafe; for it often happens that part of the matter being concocted, and perhaps expectorated, the remainder continues yet crude, and this successively: the most powerfully expectorating medicines having been ineffectually used. For sometimes expectoration goes on very well, and at others is quite stopt, the patient, in the mean time, being on all sides endangered, and as I have not the least power over expectoration, it is equally uncertain whether the distemper will end in his recovery or death. Whereas, on the contrary, by bleeding, the morbid matter is brought under my management, and the orifice of the opened vein may be made to supply the function of the windpipe. Moreover, I positively affirm that this disease, which is justly reckoned amongst the most fatal when treated according to the method we have condemned, may be cured with as much certainty and safety as any other disease, by the method just laid down, not to mention the short time wherein the cure is completed: nor have I ever known a person in the least injured by the loss of so large a quantity of blood, which the unskilful seem to apprehend.*

* The whole class of expectorants have been laid aside, and all the diagnostics and prognostics taken from the colour or consistence.

13. I have indeed frequently endeavoured to discover some other method that might prove equally effectual without bleeding so copiously, viz. either 1. by resolving the humour, or 2. by expelling it by expectoration; but have not hitherto found one of equal efficacy with that above delivered; whereby (notwithstanding the fatal prognostic Hippocrates hath left us concerning a dry pleurisy) I recovered the patient without waiting for expectoration.

14. But as the cure of this disease chiefly consists in repeated bleeding, which, in country towns, is frequently performed by unskilful operators, who often prick the tendon, whereby the limb, and consequently life, is endangered, I judged it not amiss to subjoin here the method of curing this accident.

15. In a puncture of the tendon the patient does not immediately feel pain, but twelve hours after the operation it begins, and is not so much perceived in the orifice lately made as in the parts reaching up to the armpit, where at length the pain fixes, and is chiefly felt upon extending the arm. The part affected does not swell much, the tumour not exceeding a hazel nut; but an aqueous humour, or ichor, continually flows from the orifice, which in reality is esteemed the principal sign of a punctured tendon. I have known it cured by the following application:

Take of the roots of white lilies, four ounces: boil them till they become soft in a quart of milk; then take oatmeal and linseed flower, of each three ounces; boil them to the consistence of a cataplasm in enough of the milk, strained from the white lily roots, and having bruised the roots, mix them therewith for a cataplasm, to be applied hot every morning and night to the part affected.

of the matter discharged by coughing, have in some measure passed away in the United States, since the general practice of making an opening in a vein, "supplies the function of the windpipe,"—in the cure of pleurisy.

CHAP. IV.

OF THE BASTARD PERIPNEUMONY.

1. A FEVER, attended with several peripneumonic symptoms, arises every year towards the beginning, but more frequently at the close of winter. It chiefly attacks such as are of a gross habit of body, and middle-aged persons, but oftener those who are more advanced in years, and too much addicted to spirituous liquors, especially to brandy. For as the blood of such persons hath been loaden with phlegmatic humours collected in the winter, and is put into fresh motion by the approaching spring, a cough is hereby immediately occasioned, whence these humours hurry to the lungs; and then if the patient happens to live irregularly, and drinks more freely of spirituous liquors, the matter occasioning the cough grows thick, and stops the passages of the lungs, and the fever wastes the mass of blood.

2. At the beginning of the fever, 1. the patient grows hot and cold alternately; 2. is giddy; and 3. complains of an acute pain in the head when the cough is most troublesome; 4. he vomits up all liquids, sometimes with, and at other times without coughing; 5. the urine is turbid, and intensely red; 6. the blood taken away resembles pleuritic blood; 7. he breathes quick, and with difficulty: if he be advised to cough, his head aches as if it would burst, for so the patient generally expresses himself; 8. a pain of the whole breast accompanies the disease, and 9. a wheezing is heard by the attendants whenever the patient coughs, the lungs not being sufficiently dilated, so that the vital passages seem to be closed by the swelling; whence the circulation is so intercepted, that there are no signs of a fever, especially in gross habits; though this may likewise happen from the abundance of the phlegmatic matter, whereby the blood is so surcharged, that it cannot rise to a perfect ebullition.

3. In order to the cure of this fever, I judge it proper, 1. to take away that blood which inflames the lungs, and endangers suffocation; 2. to open and cool the lungs by pectoral medicines; and 3. to abate the heat of the whole body by a cooling regimen. But as, on the other hand, the collection of the phlegmatic matter contained in the veins, and daily affording fresh supplies for the inflammation of the lungs, should seem to indicate frequently repeated bleeding; yet, on the other hand, I learnt, from the most accurate observation, that this practice proved very preju-

dicial in feverish persons of a gross habit, especially if they were past the prime of life ; so that bleeding with frequency was equally contra-indicated. I therefore had recourse to frequent purging in its stead, which is properly enough substituted, where the patient hath an aversion to copious and frequent bleeding.

4. Accordingly I proceeded in the following manner; I directed bleeding in the arm in bed, and forbid the patient to rise till two or three hours afterwards; because bleeding, which in some measure weakens the whole body, may by this means be more easily borne; for the patient can better bear to have ten ounces taken away in bed, than six or seven when he sits up. The following day I give this purging draught in the morning :

Take of fresh pulp of cassia, one ounce ; liquorice root, two drams ; four figs ; sena, two drams and a half ; troches of agaric, a dram ; boil them in water sufficient to leave four ounces of liquor when strained, in which dissolve an ounce of manna, and half an ounce of solutive syrup of roses ; mix the whole for a purging draught.

5. The next day I usually repeat the bleeding, and interposing a day, I exhibit the purging draught again, which is to be repeated every other day till the patient recovers. On the intermediate days of purging I advise the use of a pectoral decoction, oil of sweet almonds, and the like remedies. In the mean time I forbid flesh, and broth made thereof ; but especially all spirituous liquors ; and instead of these I allow him a ptisan made of barley and liquorice boiled in water for his common drink, or small beer, if he desires it.

6. This is the method of curing the bastard peripneumony, caused by an abundance of phlegmatic humours collected in the blood, and, by reason of the coldness, and moisture of the winter, thrown upon the lungs ; wherein both repeated bleeding and purging are indicated, otherwise than in a true peripneumony ; which I esteem to be manifestly of the same kind with the pleurisy, with this difference only, that a peripneumony does more universally affect the lungs. And indeed both distempers are cured by the same method, namely, by bleeding chiefly, and cooling medicines.

7. Though the bastard peripneumony in some measure resembles the dry asthma, both in the difficulty of breathing, and some other symptoms, yet it is sufficiently distinguished from it, as being attended with manifest signs of a fever and inflammation, which never appear in a dry asthma ; but they are much

less considerable and apparent in the bastard peripneumony than in the true peripneumony.*

8. It must be carefully remarked, that when this disease attacks such as have been great drinkers of brandy and other like spirituous liquors, it is by no means safe to quit them of a sudden, but they must be left off gradually; for so sudden a change makes way for a dropsy: and this should be made a standing rule in all other diseases arising from the same cause. Since I have mentioned brandy, I will observe by the way, that it were indeed to be wished, either that it was wholly forbid, or at least used only to recruit the spirits, and not to occasion a stupefaction; or that it was totally prohibited to use it internally, and only allowed to be applied externally by surgeons in fomentations, to digest ulcers, or to heal burns. For, in the last case, it excels all other applications hitherto known, as it preserves the cutis from putrefaction, and on this account speedily finishes the cure, without waiting for digestion, which runs through its stages very slowly. For this purpose let a piece of linen, dipt in brandy, or spirit of wine, be immediately applied to the parts scalded with hot water, burnt with gun powder, or the like, and renew the application between whiles, till the pain ceases, and afterwards apply it only twice a day.

CHAP. V.

OF THE RHEUMATISM.

1. **THIS** disease happens at any time, but especially in autumn, and chiefly affects such as are in the prime of life. It is

* This form of pneumony has become more common in the middle states, since the greater prevalence of bilious fevers, than in former years. More prompt and copious bleeding is necessary to cure it, than the pleurisy which has been described. Purging is useful in it, from its being so often connected with symptoms of accumulated or redundant bile. A fever sometimes succeeds the use of these depleting remedies, and now and then an acute or true pleurisy, from the blood vessels of the lungs putting on an inflammatory action when relieved from their oppressed state. After copious bleeding or purging, or after both, the patient should not only lie in bed, agreeably to the advice of our author, but he should take a dose or two of laudanum, in order to give tone to the lungs, and thereby to prevent the reaccumulation and stagnation of blood in them.

generally occasioned by exposing the body to the cold air, immediately after having heated it by violent exercise, or some other way. It begins 1. with a chiliness and shivering, which are soon succeeded 2. by heat, restlessness, thirst, and the other concomitants of a fever; 3. in a day or two, and sometimes sooner, there arises an acute pain in some or other of the limbs, especially in the wrists, shoulders, and knees; which, shifting between whiles, affects these parts alternately, leaving a redness and swelling in the part last affected. 4. In the beginning of the illness, the fever and the above-mentioned symptoms do sometimes come together; but the fever goes off gradually, whilst the pain continues and sometimes increases, occasioned by the derivation of the febrile matter to the limbs; which the frequent return of the fever, from the repulsion of the morbid matter by external remedies, sufficiently shews.

2. This disease, when unattended with a fever, is frequently taken for the gout; though it differs essentially therefrom, as will easily appear to those that are thoroughly acquainted with both diseases; and hence it is perhaps that physical authors have not mentioned it, unless indeed we esteem it a new disease.* But however this be, it is at present very frequent, and though when the fever is gone off, it seldom proves fatal, yet the violence of the pain, and its long continuance, render it no contemptible disease. For, in case of wrong management, it frequently remains not only several months, but some years, nay even during life; though in this case it is not equally painful, but has its periodical returns, like the gout: and the pain may possibly go off spontaneously, after it has been of very long standing. But in the mean time the patient is deprived of the motion of his limbs during life, the joints of the fingers being contracted inwards, with stony concretions, as in the gout, which appear more in the internal parts of the fingers than the exter-

* The editor has taken pains in his medical inquiries to prove the gout and rheumatism to be different grades of the same disease. The former differs from the latter in pervading the joints more deeply, and more remotely from the heart and brain, and in affecting the viscera, as well as the limbs. In this respect they resemble many other diseases, particularly the bilious fever, which in its mild state affects the limbs and blood vessels chiefly, but when malignant, affects more or less, all the different viscera of the body. A distinction has been taken from the gout returning often, and the rheumatism affecting but once in the course of life. The same thing may be said of the intermitting and continual fevers,—the former returns often, and the latter sometimes affect but once in the course of life, and yet who will say these fevers depend upon different specific actions?

nal, whilst the appetite may be very good, and the general health not amiss.

3. There is another species of this disease, though it is not generally esteemed of this kind, which may properly be called a rheumatic lumbago. It is a violent fixed pain of the loins, reaching sometimes to the os sacrum, and resembling a nephritic paroxysm; only the patient does not vomit. For, besides the intolerable pain near the kidneys, the whole conduit of the ureters, even to the bladder, is sometimes affected with the same, though in a less degree. And I have formerly been led into an error hereby, as imagining it to arise from some gravel lodged in those parts; whereas in reality, it proceeds from the peccant and inflamed matter of the rheumatism, which affects only those parts, leaving the rest of the body free. Unless this acute pain be removed in the same manner as the former species, it continues as long, and proves equally violent; so that the patient cannot lie in bed, but is forced either to leave it, or sit upright therein, and be perpetually bending his body backwards and forwards.

4. Since both the kinds of this disease seem to arise from inflammation, as appears from their concomitants just mentioned, and especially by the colour of the blood taken away, which exactly resembles that of persons in a pleurisy, which is universally allowed to be an inflammatory disease; so I judge that the cure ought to be attempted only by bleeding, the heat of the blood being in the mean time abated by cooling and thickening medicines, along with a proper regimen.

5. Accordingly as soon as I am called, I order ten ounces of blood to be immediately taken away from the arm of the side affected, and prescribe a cooling and incrassating julap, nearly after the following manner:

Take of the distilled waters of lettuce, purslain, and water lily, each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce: mix them together for a julap, of which let the patient drink at pleasure; or of the emulsion above set down in the cure of the pleurisy.

To ease the pain, I order a cataplasm, prepared of the crumb of white bread, and milk, tinged with saffron, or a cabbage leaf to be applied to the part affected, and frequently renewed.* With respect to diet, I enjoin a total abstinence from flesh, and even the thinnest flesh broths; substituting in their place, barley broth, water gruel, panada, and the like. I allow only small beer for

* The editor has often given great relief by the application of cabbage leaves to the seat of the pain in this disease.

drink, or which is more proper, a ptisan prepared of pearl barley, liquorice, sorrel roots, &c. boiled in a sufficient quantity of water: and I advise the patient to sit up some hours every day, because the heat, which proceeds from lying always in bed, promotes and increases the disease.

6. The next day I repeat the bleeding in the same quantity, and in a day or two after, as the strength will allow, I bleed again; then interposing three or four days, as the strength, age, constitution of the patient, and other circumstances, indicate, I bleed a fourth time, which is generally the last, unless too hot a regimen has preceded, or heating remedies have been exhibited without necessity. But the use of opiates requires more copious bleeding; and therefore, though the pain be ever so violent during the whole course of the disease, yet, when I intend to effect the cure solely by bleeding, I judge it highly necessary to refrain from opiates, because the disease is fixed thereby, and does not yield so readily to bleeding; so that where such medicines are given too frequently, bleeding must in consequence be oftener repeated than is otherwise necessary. Besides, in the height of the disease, they do not answer the expectations we have conceived of them.*

7. Whilst the abovementioned remedies and regimen are carefully continued, I inject glysters made of milk and sugar, between times, on the intermediate days of bleeding; earnestly recommending the exact observance of these directions, for at least eight days after the last bleeding; and then I prescribe a gentle purging potion to be taken in the morning, and in the evening a large dose of syrup of white poppies in cowslip-flower water; whereby a check is put to the tumultuary motion of the blood, which might otherwise endanger a relapse. This being done, I allow the patient to return by degrees to his customary way of living, in relation to diet, exercise, and air; but at the same time caution him to refrain, for a considerable time, from wine and all spirituous liquors, salt or high seasoned flesh, and in general from all food of difficult digestion.

8. After having repeated bleeding, as above specified, the pain is greatly abated, though it does not go quite off; but as soon as the strength returns, which bleeding had greatly impaired, the symptoms will vanish, and the patient recover perfectly, especially upon the approach of the following season of the year, which will be more conducive to recruit the strength, than that wherein he was first attacked with the disease.

* Opiates in an acute rheumatism are sometimes called for by the extremity of the pain, but the disease is generally protracted by them.

9. But though this or a similar method, seasonably used in the beginning of the disease, does generally prove successful ; yet it frequently happens, when the patient hath been unskillfully treated by a contrary procedure, he is severely afflicted during life with flying pains, which are sometimes violent, and at others more gentle ; whereby the unskilful are easily deceived, and they are commonly reckoned symptoms of the scurvy. And here by the way, to speak my sentiments freely, I shall add, that though I do not at all doubt that the scurvy is to be met with in these northern countries, yet I am persuaded it is not so frequent as is generally supposed to be ; for most of those disorders we term scorbutic, are the effect of approaching ills, not yet formed into diseases, and not having hitherto assumed a certain form of appearance ; or they are the remains of some disease imperfectly cured, whereby the blood and juices are vitiated. Thus, for instance, in those bodies wherein a matter suited to produce the gout is newly generated, but not yet thrown upon the joints, there appear various symptoms, which occasion us to suspect the scurvy, till the formation and actual appearance of the gout remove all doubt concerning the distemper.

10. Neither are we ignorant that as many symptoms, resembling the scurvy, afflict gouty persons after the fit of the gout is over ; namely, when an unseasonable use of evacuations, or the advanced age of the patient, or some other cause hath obstructed nature, so as to have rendered her unable to throw off all the gouty matter upon the joints ; which being retained, and yet of no use, vitiates the mass of blood, and occasions many dangerous symptoms. And this is to be understood not only of the gout, but also of a beginning dropsy. Though it is proverbially said, that where the scurvy ends the dropsy begins ; yet this maxim is only to be understood in this sense, that as soon as the dropsy shews itself by manifest signs, the pre-conceived opinion of the scurvy falls to the ground. And the same may be maintained of several other chronic diseases, which are either yet growing in the body, and accordingly have not assumed any certain form of appearance ; or of those which are partly conquered, but not totally cured. And in reality, unless this be granted, the name of the scurvy (as it does at this day) will obtain universally, and comprize most diseases. Whereas if we make an accurate search into the secret causes of every disease, and strip it of the disguise of these irregular symptoms which serve to conceal it, we shall soon discover its species, and easily reduce it to its proper class. Moreover, the method whereby these diseases are to be cured, must not be suited to those irregular symptoms, but to the individual disease, of whatever kind it be, as if it were perfectly formed, and actually existed.

11. But it is here to be observed, that when the rheumatism hath taken deep root by a continuance of some years, it is improper to repeat bleeding at such short intervals, as in the beginning of the disease; and better to interpose some weeks between every bleeding. By this means the morbid matter will either be quite expelled, or at least in so great a degree, that the remains of it may be carried off entirely by an issue made in one of the legs, and exhibiting a proper quantity of some volatile spirit every morning and evening in canary.

12. But though there is a remarkable difference between the true rheumatism and the scurvy, as intimated above, it must, nevertheless, be owned that there is another species of the rheumatism, which is near a-kin to the scurvy; for it resembles it in its capital symptoms, and requires nearly the same method of cure; and therefore I call it a scorbutic rheumatism. The pain sometimes affects one, and sometimes another part, but it does rarely occasion a swelling, as in the other species, neither is it attended with a fever. It is also a less-fixed pain, and accompanied with irregular symptoms: sometimes it affects one limb, and sometimes another; sometimes it only attacks the internal parts, and causes sickness, which goes off again upon the return of the pain of the external parts. In this manner the patient is alternately afflicted, and the disease lasts a long time, like those distempers which are esteemed most chronic. It chiefly attacks the female sex, and men of weak constitutions; so that I should have concluded it ought to be referred to the tribe of hysteric disorders, had not repeated experience taught me that it would not yield at all to hysteric remedies.*

13. Such, likewise, as have gone through a long course of the Peruvian bark are subject to this disease, which, by the way, is the only ill effect I have ever observed from the use of this medicine.† But however it be, this disease, whether it proceeds from this or any other cause, is easily conquered by the use of the following remedies, which I should have concealed had I not preferred the good of mankind to my private interest: for by the help of these alone, I have cured several who were afflicted in the manner I have described, when repeated bleeding, cathartics, a milk diet, the testaceous powders, &c. availed not at all.

* That form of rheumatism which our author calls *scorbutic* is very rare in the United States. The most striking case I ever saw of it was in a woman who had lately migrated from England.

† It is possible that bark may have induced this disease when given prematurely, by its excess of stimulating power, but when given in that state of feeble morbid action, which precedes inflammation in the acute rheumatism, it is not only safe, but useful. It renders convalescence more rapid, and the recovery more complete.

Take of the conserve of garden scurvy grass, two ounces ; conserve of wood sorrel, an ounce ; compound powder of wake robin, six drams ; syrup of oranges, enough to make the whole into an electuary ; two drams of which is to be taken three times a day, for a month, drinking after it three ounces of the following distilled water :

Take of garden scurvy grass, eight handfuls ; of water cresses, brook lime, sage, and mint, each four handfuls ; the peels of six oranges ; nutmegs bruised, half an ounce : infuse them in six quarts of mum, and draw off only three quarts for use in a common still.

The dose of the compound powder of wake robin must by no means be diminished.

CHAP. VI.

OF THE ERYSIPELATOUS FEVER.

1. THIS disease affects every part of the body, but especially the face, and it happens at all times of the year, but chiefly at the close of summer, at which time it frequently attacks the patient whilst he is abroad. 1. The face swells of a sudden, with great pain and redness, and 2. abundance of small pimples appear, which, upon the increase of the inflammation, often rise up into small blisters, and spread considerably over the forehead and head, the eyes in the mean time being quite closed by the largeness of the tumour. The country people call it a blast, or blight ; and in reality it differs little from those symptoms which accompany the wounds made by stings of bees, or wasps, excepting only that there are pustules. And these are the signs of the common and most remarkable species of the erysipelas.

2. But whatever part is affected by this disease, and at whatever time of the year it comes, a chilness and shivering, unless they preceded a day or two before, as it sometimes happens, generally attend this inflammation, with a thirst, restlessness, and other signs of a fever. As the fever in the beginning occasioned the pain, swelling, and other symptoms (which increasing daily sometimes terminate in a gangrene) so in the course of the

disease these symptoms greatly conduce to the increase of the fever, till both are taken off by proper remedies.

3. There is another species of this disease, though it happens less frequently. This attacks at any time of the year, and is mostly owing to too free an use of subtile attenuating wines, or some similar spirituous liquor. It begins with a slight fever, which is immediately succeeded by an eruption of pustules almost over the whole body, resembling those occasioned by the stinging of nettles, and sometimes they rise up into blisters, and soon after disappear, and lie concealed under the skin, where they cause an intolerable itching, and after gentle scratching come out anew.

4. In order to the cure, I conceive, 1. that the peccant matter which is mixed with the blood, must be evacuated in a proper manner; 2. the ebullition of the blood checked by cooling remedies; and lastly, 3. that the matter now secreted from the blood be invited out and discussed. To answer the ends, as soon as I am called, I direct a sufficient quantity of blood to be taken away from the arm, which generally resembles the blood of pleuritics. The next day I give my common purging potion, and exhibit a paregoric draught at bed time, in case it has operated briskly, e. gr. syrup of white poppies, in cowslip flower water, or something of the same kind. After purging, I order the part affected to be fomented with the following fomentation:

Take of the roots of marshmallows and lilies, each two ounces; the leaves of mallows, elder, and mullein, of each two handfuls; the flowers of melilot, the tops of St. John's wort, and the lesser centaury, of each one handful; linseed and fenugreek seed, each half an ounce; boil them in water sufficient to leave three pints; strain off the liquor, and when it is used add two ounces of spirit of wine to every pint thereof. Let the part affected be fomented twice a day with soft flannels dipt in this fomentation, hot, and wrung out, and, after fomenting, bathe it with the following mixture:

Take of spirit of wine, half a pint; Venice treacle, two ounces; long pepper and cloves, reduced to powder, of each two drams; mix them together; cover the part affected with brown paper, moistened with this mixture.

5. Moreover, I order the patient to sup only barley broth, water gruel, and eat roasted apples, to drink small beer, and to refrain from bed some hours every day. By this method the fever and other symptoms are generally soon taken off; if not, I repeat bleeding, and sometimes it is necessary to bleed a third time, interposing a day between each bleeding, that is, if the

blood be greatly vitiated, and the fever high. On the intermediate days of bleeding, I order a glyster made of milk and syrup of violets, and a cooling julap made of the distilled water of water lilies, &c. as delivered in the cure of the rheumatism, to be taken in a proper quantity every hour. But a single bleeding and a purge generally effect the cure, provided they be used in time. The same method is to be used in that species attended with itching and redness, and resembling the stinging of nettles; only external applications are less necessary here.

6. I shall observe here, by the way, that though not only this disease, but the greater part of such as affect the skin, and are attended with some sort of eruption, in case they are of the chronic kind, readily yield to this method, and accordingly go off in a short time by repeated bleeding and purging; yet there are others that require a very different treatment. For neither the evacuations just mentioned, how frequently soever repeated, nor testaceous powders exhibited to sweeten the blood, at all avail, when a noxious, recementitious matter lies deep in the skin, and cannot be removed but by such remedies as strengthen the tone of the blood, and are consequently proper to open the obstructions of the pores: and therefore in the violent itchings, and inveterate eruptions of the skin, of that kind, I have had recourse to the following method, with success:

Take of Venice treacle, half a dram; electuary of the egg, a scruple; Virginian snake root, finely powdered, fifteen grains; oriental bezoar, five grains; syrup of candied citron, enough to make them into a bolus; which is to be taken every morning, and at bed time, for one and twenty days, drinking after it six spoonfuls of the following julap:

Take of the distilled water of *carduus benedictus*, six ounces; plague and treacle water, of each two ounces; syrup of cloves, an ounce: mix them together.

7. The patient should sweat an hour or two every morning after taking the medicine, or rather promote a gentle breathing sweat in bed, for the same space of time, by covering himself with a greater quantity of cloaths than usual. This course being over, if the eruption still continue, let the parts affected be anointed with the following liniment:

Take of the ointment of sharp-pointed dock, two ounces; pomatum, an ounce; flowers of sulphur, three drams; oil of rhodium, half a scruple: mix them together for a liniment.

But the medicines above prescribed must by no means be used before sufficient bleeding and purging have been used; which, though they do not effect a cure used alone, are however preventive of a fever, which might otherwise arise from the use of such hot medicines.*

8. There is another kind of eruption, though less frequent, wherein no evacuations avail. This, though it sometimes appears in other parts, generally affects the breast, and fixes itself in some certain place: it rises very little, if at all, higher than the skin, and appears like a broad spot, or a kind of branny scurf, of a yellowish colour. Whilst this spot keeps out, the patient continues pretty well, but when it vanishes, as it frequently does, a slight sickness succeeds, the urine becomes more turbid, and of a deeper red, but somewhat inclining to yellow. This disorder, after using general evacuations, is to be treated in the same manner as the stubborn itch above mentioned; only it must be remembered that the use of wine, and flesh of easy digestion, must by all means be indulged, all coolers being rather detrimental than serviceable. In this manner is this last kind of eruption cured; but sometimes it proves so inveterate, as only to yield to a long continued course of chalybeate waters.

CHAP. VII.

OF THE QUINSEY.

1. THIS disease comes at any time of the year, but especially between spring and summer; it chiefly attacks the young and sanguine, and also red-haired persons. It begins 1. with a chillness and shivering, 2. a fever succeeds, and 3. immediately after a pain and inflammation of the fauces, which, without speedy relief, hinder deglutition, and prevent breathing through the nose, whence suffocation is endangered from the inflammation and tumour of the uvula, tonsillæ, and larynx. This disease is extremely dangerous, and sometimes kills the patient in a few

* Our author's practice in the erysipelas, is that which has been followed by most of the physicians of the United States. Where bleeding has been neglected, or has proved ineffectual, and a tendency appears in the part affected to mortification, a blister has been used to it with the happiest effect.

hours, namely, when a large quantity of febrile matter is thrown upon the above-mentioned parts, and the approaching violent symptoms are not timely enough prevented by proper remedies.

2. In order to the cure I immediately bleed plentifully in the arm,* and presently afterwards in the veins under the tongue; and then I order the inflamed parts to be besmeared with honey of roses, strongly acidulated with spirit of sulphur; and prescribe the following gargarism to be used, not in the common way, but to be held quietly in the mouth till it grows warm, and then spit out; and this to be repeated between whiles.

Take of the distilled waters of plantain, red roses, and frogs spawn, of each three ounces; three whites of eggs, beat to a liquor; white sugar, three drams: mix them together for a gargarism.

I also order the emulsions described in the cure of the pleurisy, or the like, to be taken daily.

3. I bleed again in the arm the next morning, unless the fever and difficulty of swallowing be in some measure abated, in which case I give a gentle purge: much experience having taught me that this is highly necessary and useful after bleeding. If this fever and other symptoms are like to be violent even after purging, which yet seldom happens, they are to be quieted by repeated bleeding, and applying a large and strong blister to the back. During the whole course of the disease a cooling and emollient glyster must be given every morning, except on the purging day.

4. I enjoin a total abstinence from flesh and broths made thereof, allowing only barley broth, water gruel, roast apples, and the like for diet; and ptisan or small beer for drink. The patient must likewise sit up some hours every day; for the warmth of the bed increaseth the fever and its concomitants, which I endeavour to conquer by this method. It is well worth observing that the quinsey, which is only a symptom of a stationary fever, must be treated with the same method which the fever demands, and accordingly, is either to be carried off by perspiration and sweat, or some other method, which the original fever whereon it depends, requires.

5. There are other fevers which ought to be enumerated amongst the intercurrents, which, by reason of their terminating

* In cases which do not threaten suffocation, I have found no inconvenience from leaving the tonsils to suppurate, for bleeding where it does not resolve the inflammation, protects the suppurative process.

immediately some other way, in some peculiar symptoms, are not usually accounted fevers, though they were originally such. And the disorder, whence the disease takes its name, is only the symptom of the fever, which terminates at length therein. At present I shall only briefly treat of two of these, namely a bleeding at the nose and spitting of blood.

6. A bleeding at the nose happens at any time of the year, and chiefly afflicts such as are of a hot and weakly constitution, and more frequently in the decline of life, than in youth. Some signs of a fever appear in the beginning, which go off suddenly, making way for itself through the nostrils; but there remains a pain and heat of the fore part of the head. The blood flows for some hours, and then stops awhile, and soon after breaks out anew; and this it does alternately, till at length the hæmorrhage ceases entirely, being stopped either by the use of remedies, or ceasing spontaneously from the considerable loss of blood; but there is danger of a relapse every year, if the blood happens to be much heated by spirituous liquors, or any other way.

7. In this case I endeavour to check the excessive heat and ebullition of the blood, whence the preternatural extravasation proceeds, and to divert the force of it another way. For this purpose I bleed frequently and copiously in the arm, the blood always appearing like that taken away in a pleurisy; I order a cooling and incrassating diet, as milk boiled with thrice its quantity of water, to be drank cold, roast apples, barley broth, and other spoon meats made without flesh, and likewise cooling and incrassating julaps, with emulsions, as above prescribed in inflammatory diseases. I advise the patient to refrain from bed some hours every day, and not to omit taking a lenitive and cooling glyster every day also; and an opiate may be exhibited every evening at bed time, in order to check the commotion of the blood. But as hæmorrhages of this kind are frequently accompanied with an acrimonious lymph, which being mixed with the blood, increases its motion, and opens the mouths of the vessels; besides revulsions and cooling, I usually give a gentle purge, even in the height of the disease, and an opiate in a larger dose than ordinary after the operation is over, and when the symptom is entirely gone off, I give another purge.

8. As to external applications, a linen compress, dipt in a solution of sal prunella in cold water, and gently squeezed out, may be applied to the nape and both sides of the neck, often in a day. And after general evacuations, the following liquor may be used.

Take of Hungarian vitriol and alum, each an ounce; the phlegm of vitriol, half a pint; boil them together till the salts are dissolved; filtre the liquor, when it is cold, and se-

parate it from the crystals which shoot between whites; lastly, to the remaining liquor add a twelfth part of oil of vitriol. Put up a tent dipt in this liquor into the nostril whence the blood flows, and keep it therein two days.

Linen compresses dipt in this liquor, and applied to the part, will stop an external bleeding.

9. A spitting of blood, which seizes weak persons of a hot constitution and disordered lungs, and young persons rather than old, between spring and summer, nearly approaches the nature of the hæmorrhage just treated; this being a fever, likewise, that loses its name and essence by the crisis whereby it is terminated, with this difference only, that in a bleeding at the nose the blood, being too much agitated, flows impetuously to the veins of the nostrils, whereas in this hæmorrhage it hurries to the lungs. And as in the former disorder a pain and heat in the fore part of the head continue to afflict the patient during the flux of the blood, so in this the breast is affected with pain, heat, and weakness. This disorder also requires almost the same treatment, only it will not bear purgation, which, especially if it be repeated, endangers a consumption.* But frequent bleeding, a glyster injected every day, and diacodium taken every evening, along with a cooling and incrassating regimen, and medicines, will effect a cure.

10. And these are the particulars I have hitherto observed, concerning that numerous tribe of diseases, which is divided into different species, and comprehended under the generical name of fevers, and of the symptoms thereon depending; in which I have solicitously endeavoured not to intrude my own inventions and imaginations on the world, but with a candid and honest mind (and consequently attached to no hypothesis) have given the history of the diseases themselves, and their natural concomitants, and subjoined the method of cure with equal caution and truth. And if an earnest desire of discovering and establishing a more certain method of curing diseases has led me to strike out a new road, it is hoped that none of the learned will accuse me, either of contemning their judgment, and trusting too much to my own, or a love of novelty; since the success which has attended my inquiries, has hitherto much encouraged me, and the experience of my successors will undoubtedly vouch for my veracity and honesty.

11. In reality, this destructive tribe of diseases which afflicts

* There are few diseases of the lungs in which purging affords relief. On the contrary, most of them are made worse by this remedy, when it does more than keep the bowels gently open.

mankind daily, and destroys at least two thirds of the human species, excepting such as die of a violent death, is not to be opposed in an indolent manner.* The continued violence of these distempers and the daily destruction of robust and young persons especially, notwithstanding all the helps which the specious methods, so confidently delivered by theoretical authors, have hitherto afforded, gave me little satisfaction when I first considered the matters; for I clearly perceived that those trifling disquisitions were so little conducive to the cure of diseases, that such as had recourse to these refuges were not more safe, notwithstanding the pretensions of their dogmatic authors, than such as neglected the assistance of art, and trusted wholly to nature.

12. If therefore I have contributed in some measure to lessen the difficulty and danger that frequently occur in the cure of these diseases (as without breach of modesty I may presume I have) I have gained my end in part, and enjoy the pleasing reward of my labours, well spent in promoting the good of mankind. These are nearly all the principal discoveries I have hitherto made, or at least all those that I could reduce to any method, with relation to fevers, and the symptoms thereon depending, to the thirtieth of December, 1675, when I finished these essays.

AN EPISTLE OF ROBERT BRADY, M. D. MASTER OF CAIUS COLLEGE, CAMBRIDGE, AND REGIUS PROFESSOR OF PHYSIC THERE, TO DR. SYDENHAM.

LEARNED SIR,

NO physician but yourself has hitherto attentively considered the force of the air, and its influence on the human body, the manner of its acting in preserving life, the great share it has in the fermentation, alteration, and circulation of the blood, and in performing animal motion. Neither have physicians or naturalists ever searched diligently and accurately into its natural tem-

* There has always been a prejudice against what are called heroic, or energetic remedies, and it is common to say of them, they are worse than the disease. It is necessary they should be so,—that is, more powerful than the disease, or they cannot overcome it.

perature and manifold changes ; which constitutions you have judiciously delineated.

In reality, as the air insinuates itself into all, even the remotest parts of the body, it must needs communicate the changes it undergoes from the substances wherewith it is impregnated to the blood and juices ; and hence any particular depravity of the blood generally arises from some certain ill constitution of the air. You have, therefore, wisely formed your medicinal observations of the history and cure of acute diseases, agreeably to the various constitutions of years and their seasons ; for the impressions of the air upon the blood and juices, and especially upon the spirits, which perhaps are formed of air, are manifest in these ; and I am persuaded that the nature of fevers, as deduced from observing the temperature of the air in those years wherein they prevailed, constitutes the most useful, if not the only method of establishing a sure basis for practice. Let me intreat you, therefore, if you have any observations relating to the fevers of the immediately preceding years, to publish them, by which means you will highly promote the good of mankind.

In Sect. I. Chap. V. of your work, you have briefly treated of the use and manner of giving the bark. I know some eminent physicians, who give it in a large quantity, and repeat it frequently ; and others who prepare extracts and infusions of it, and make the infusions into emulsions, julaps, &c. affirming that by these means they can certainly cure intermittents, and likewise some continued fevers. It is doubtless an excellent remedy in intermittents, and I have used it twenty years successfully in a variety of forms and preparations. If, however, you have experienced any particular or better method of giving it, pray publish it.

In the cure of the rheumatism you have proposed frequent and copious bleeding as necessary ; I should be glad to know if it will not yield with equal certainty to some gentler method. But whilst you employ your time in these studies, you will be grievously censured and calumniated by envious and malicious men, who will no more spare your name and reputation on this occasion, than they did formerly, though by using you so ill they incur the displeasure of the candid and ingenuous part of mankind, who generally treat such slanderers with contempt.

And, in reality, if they would be acquainted with a history of fevers, their essences, causes, differences, and true method of cure, derived from a long course of experience, they must necessarily follow you as their guide, as there is scarce any other way of coming at this knowledge, except that which you have discovered.

Be not deterred, therefore, from pursuing your inquiries ; despise the raillery of the superficially learned, and assist the can-

did part of mankind: you have pointed out the way, and if your endeavours displease, it lies upon those, who censure them, to shew us a better.

I take my leave, worthy Sir, with assuring you that your compliance with my request will oblige the whole faculty, and, amongst the rest,

Your most obliged Friend,

R. BRADY.

Cambridge. }
Dec. 30, 1679. }

DR. SYDENHAM'S ANSWER TO DR. BRADY; CONTAINING THE HISTORY OF THE EPIDEMIC DISEASES FROM THE YEAR 1675 TO 1680.

DEAR SIR,

1. IF I have in the least contributed by my observations to improve the methods of cure in diseases, it doubtless becomes me in particular to communicate them, more freely than other men, to those who desire it; for as I am satisfied that my knowledge does not exceed that of others, it can do me no prejudice to publish such trite and inconsiderable remarks. If, therefore, I have made any beneficial discoveries in physic, and better ascertained the methods of cure in distempers, the imparting them does not entitle me to the same praise as it would do others, who can easily imagine the vast satisfaction it would afford me, who have had the gout these thirty years, and been a long time severely afflicted with the stone, to be informed of a method that would give me relief.

2. But few persons are endowed by Almighty God with such qualifications, as may make them serviceable to mankind in this case; and it can only be successfully accomplished by those whose abilities are superior to mine. Nevertheless I have always thought it a greater happiness to discover a certain method of curing, even the slightest disease, than to accumulate the largest fortune: and whoever compasses the former, I esteem not only happier, but better and wiser too. For can a person give a stronger proof of his benevolence and wisdom, than by endeavouring always to promote the public good, rather than his private interest, as he makes so small and inconsiderable a part of the whole? For to

use the expression of Cicero, that great master of thought and diction, and genius of his age, I may say of mankind, "As the laws prefer the good of the whole to that of particulars, so a wise and good man, who knows his duty and obeys the laws, consults the good of mankind more than his own or any single person's." And in reality, as it is the part of a wicked man to destroy his fellow-creatures, so it is the duty of a good man to preserve them, and instruct others how to save them from death, even after his own decease. Nor can any thing be more inhuman and detestable, than to insinuate a disregard and unconcern for whatever misfortunes may happen to mankind after our death.

3. But, not to insist upon these particulars at present, I must own, I think myself obliged to communicate to you the discoveries I have made relating to the diseases you inquire after, however trifling they seem. I must likewise return you thanks for the resentment you are pleased to express of the ill treatment I have received from some persons, whose censure I should have escaped, if the blameless conduct of a person who has injured no man in words or actions, could have secured me. But since this has been occasioned by no fault of mine, nor I hope ever will, I am determined to give myself little concern for the failings of others, being convinced that all that is incumbent on me, is to act like an honest man, and discharge the office of a good physician to the best of my ability.*

4. I will therefore deliver the observations I have made concerning the diseases you inquire after in your letter. And, first, I will treat of the present epidemic intermittents; in doing which I conceive it may be proper to run through those years methodically, but briefly, which succeeded that wherein I conclude my history of the acute diseases, which had prevailed for fifteen years preceding, and just to recapitulate some particulars relating to their cure that have already been taken notice of. By this means we shall more clearly perceive at what time, and by what degrees, the present reigning constitution of fevers crept in.

5. The year 1676 gave rise to the same tribe of diseases as were generated by the constitution last mentioned, in our observations above delivered, viz. those of 1673, (in the autumn whereof it first began) 1674, and 1675. But this constitution being in

* The whole of the two last sections indicate benevolence and magnanimity well worthy of imitation. Our author wished to survive himself, and do good even in his grave, and heaven has seconded his wishes. How could he expect a blameless or inoffensive life should protect him from ill treatment from his brethren, when even kind offices combined with it, will not have that effect.

its decline, the diseases that appeared were milder than ordinary, and not so epidemic, notwithstanding the peculiar disposition of this year with respect to the manifest qualities of the air, in which it differed considerably from the preceding years; for the heat of the summer, and the cold of the winter, were much greater than in most years within my remembrance. And yet, as so great a dissimilitude of seasons gave rise to similar diseases, it is plain from hence, that the secret temperature of the air favours their production more than its manifest qualities. But it must be owned that the same diseases, with respect to some certain symptoms, depend sometimes on the manifest disposition of the air as appears from the measles and cholera morbus of this year, of which I shall briefly treat.*

6. Thus the measles that appeared in the beginning of the year, though they were not very epidemic, were remarkable for their longer duration; for whereas they began as usual in January, increased till the vernal equinox, and then abating gradually, almost went off at the summer solstice; they continued this year till near the autumnal equinox, occasioned perhaps by the summer's heat, whence they gained force, so as to last longer; yet nevertheless they required no new method of cure.

7. At the close of summer the cholera morbus raged epidemically, and being rendered more severe by the extraordinary heat of the seasons, was accompanied with more violent and inveterate convulsions, than I had hitherto observed. For not only the abdomen (which is usually in this case) but all the muscles of the body, and especially those of the arms and legs, were affected with terrible spasms, so that the patient would sometimes leap out of bed, and writhe himself all manner of ways, in order, if possible, to mitigate their violence.

8. But though this disease admitted of the usual method of cure, yet stronger opiates, and a more frequent repetition of them than ordinary, were manifestly indicated. To exemplify this observation: I was called to a person at this time, who was reduced to the last extremity by the abovementioned symptom, attended with excessive vomiting, cold sweats, and a scarce perceptible pulse: Dr. Goodal accompanied me (whose name I can never mention, without calling to mind his probity and candour, his indefatigable endeavours to discover and cure diseases, and his friendship for me;) I gave the patient twenty-five drops of my liquid laudanum in a spoonful of strong cinnamon water, for as

* This remark is correct. While some epidemics maintain a uniform character in all kinds of weather, others are certainly influenced by what our author calls the "manifest," that is, the sensible qualities of the air.

there was a very great inclination to vomit, I was apprehensive that a larger quantity of the vehicle might occasion the medicine to be vomited up, as it often happens in such cases. I waited near half an hour, and finding the medicine too weak to stop the vomiting, and take off the convulsions, I was obliged to repeat it, and increase the dose proportionably, till these obstinate symptoms were at length quieted; observing however to give it at such intervals, that I might be able to conjecture what effect the last dose would have, before I exhibited another. The convulsions, notwithstanding, being apt to return upon the least motion, I strictly enjoined that the patient should be kept very still for a few days, and take the abovementioned medicines between whiles in a smaller quantity, even after his recovery, in order to prevent a relapse: and this method had the desired success.

9. Nor ought I to be accounted too bold for exhibiting laudanum so plentifully, since experience will clearly shew, that in disorders where opiates are indicated, viz. violent pain, and vomiting, or an immoderate looseness and great hurry of the spirits, the dose of the medicine, and its repetition in point of frequency, must be proportioned to the urgency of the symptom. For such a dose as may conquer a slight symptom, will be rendered ineffectual by a more violent one; and what would otherwise endanger life, will in such a case be a means of preserving it.

10. These are the diseases that prevailed this year, being the same, as I have already intimated, with those of the three preceding years. But I can give no account of those that raged in the following year, viz. in 1677. For at the beginning of it I made bloody urine upon the least motion, and was soon after attacked with the gout, which did not affect my limbs so much as my bowels, where I had violent pain; and these disorders were succeeded with a decay of strength, a loss of appetite, a swelling of the legs, and other dangerous symptoms; so that death would then have been welcome to me. My ill state of health at this time confined me within doors for three months, and afterwards obliged me to go into the country for my recovery, and make almost as long a stay there. I came back to town in autumn, when my friends informed me, that there still remained a few intermittents here and there, most of which had first seized the patients in the country; but having been prevented from attending the sick by my own indisposition, I can give no account of the diseases of this year.

11. The constitution of the following year, namely of 1678, being entirely changed, so eminently favoured intermittents, that they again became epidemic, whereas from 1664 to this time, including the space of thirteen years, they were in a manner extinct in town, except only that they seized a few sporadically, or were by accident brought with them out of the country. And

they will not continue in this state, but will spread much more, till this constitution of the air whence they proceed comes to its height. For though only a few of these intermittents arose in the spring, yet they prevailed so much over all other diseases at the decline of summer and beginning of autumn, as to be the sole epidemic diseases. But in the winter they yielded by degrees to the small pox, and the other reigning epidemics, till the return of the season peculiar to them.*

12. To proceed now to deliver what we have learnt by diligent observation, relating to the nature and causes of these fevers. First then it is to be noted, that though quartans were more frequent formerly, yet now tertians or quotidians were most common, unless the latter be entitled double tertians; and likewise, that though these tertians sometimes began with chilness and shivering, which were succeeded first by heat, and soon after by sweat, and ended at length in a perfect intermission, returning again after a fixed time, yet they did not keep this order after the third or fourth fit, especially if the patient was confined to his bed, and used hot cardiacs, which increase the disease. But afterwards this fever became so unusually violent, that only a remission happened in place of an intermission; and approaching every day nearer to the species of continued fevers, it seized the head, and proved fatal to abundance of persons.†

13. As to the cure, I have learnt by many years experience, that it is dangerous to attempt to remove tertians and quotidians by sudorifics, especially when they are recent, and have assumed no certain shape; for they then nearly approach to continued fevers. And though it is well known that as soon as the sweat breaks out, the restlessness and other symptoms presently go off, and a perfect intermission succeeds, and consequently that it should be somewhat promoted, or at least not hindered, when the fit is going off, yet it is manifest that if sweat be forced beyond the due degree, the intermittent becomes a continued fever, and life is endangered. I conceive the reason of this to be, that so profuse a sweat (since it exceeds the quantity of the febrile matter, already so attenuated by the heat of the fit, that it may now be expelled by despumation) after it has carried off such a part thereof, as is sufficient to produce a single fit, wastes the rest in inflaming the blood. Upon considering, therefore, the inefficacy of this method, and the inconveniences attending other evacuations, as bleeding and purging, both which, by weakening the texture of the blood, prolong the disease, the Peruvian bark afforded me the surest hope; of which I can truly say, notwith-

* Another illustration of one of the laws of epidemics!

† Another proof of the unity of fever!

standing the prejudice of the vulgar and a few of the learned, that I never found, or could reasonably suspect, any ill consequence follow its use; unless that such as have taken it a long time are sometimes seized with a scorbutic rheumatism, as I have before remarked in treating of the Rheumatism. But this disorder seldom proceeds from this cause, and, when it does, readily yields to the remedies there prescribed.

14. And, in reality, if I were as certain of the continuance of its effects, as I am of the innocence of the bark, I should not scruple to prefer it to all the medicines hitherto known; since it is not only excellent in this disease, but likewise in those of the uterus and stomach: so little reason is there to complain of its unwholesomeness.

15. But I conceive the bark has been condemned, chiefly, for the following reasons: 1. Because the many terrible symptoms, which accompany intermittents of a long standing, where not a grain of the bark has been given, are immediately ascribed to it, upon taking but a single dose of it. 2. Because it cures the disease by a secret virtue, and not by any sensible evacuation, many persons conclude that the morbid matter, which ought to have been expelled, is retained in the body by its astringency, and ready to occasion fresh disturbance, the disease not being entirely carried off. But such persons do not sufficiently consider, that the sweats happening at the decline of the fit have expelled all the morbid matter that was collected on the well days, so that only the seeds of the disease remain, to be ripened in time; and that the bark, by closely pursuing the retiring fit, and cutting off the supplies of the illness, cannot be a means of retaining the morbid matter in the blood, which is now existent there only in embryo; and consequently is not to be esteemed productive of those fits and obstructions which are commonly judged to proceed from its use.

16. But how does it appear that the bark cures intermittents by its astringency? In order to prove this, other astringents, possessed of the same virtue, must first necessarily be produced; I have tried the strongest ineffectually. Besides, the bark cures even where it purges, which is sometimes the case. Upon the whole, therefore, they act the wisest part, who confine their inquiries to their abilities. But if any body will delude himself, and imagine that he is possessed of other faculties than such as either help him to understand natural religion, which teaches that God, the creator and governor of all things, is to be worshipped with profound veneration, as he justly merits; or moral philosophy, that he may practice virtue, and make himself an useful member of society; or lastly, the medical, mathematical, and mechanical arts, which are so useful to the purposes of life: let him, first, deduce an hypothesis from natural philosophy, that will ena-

ble him to explain the cause of but a single specific difference of things in nature ; for instance, let him account for the universal greenness of grass, and why it is never of any other colour, and the like. And if he can do this, I will readily embrace his sentiments ; but if not, I shall not scruple to affirm, that all the diligence and caution of a physician should be employed in investigating the history of diseases, and applying those remedies which stand recommended by experience for the cure thereof ; pursuing, notwithstanding, that method which is founded on right reason, and not the result of idle speculations. I will therefore briefly deliver what experience hath taught me, relating to the method of exhibiting the bark.

17. The Peruvian bark, commonly called the Jesuit's powder, to the best of my remembrance, began to be esteemed at London, for the cure of intermittents, and especially quartans, about twenty-five years ago ; and indeed very deservedly, as these diseases were seldom cured before by any other method, or medicine ; whence they were reputed the *opprobria medicorum*, and not without reason. But not long after it lost its character, and was entirely disused for two cogent reasons : 1. Because being exhibited only a few hours before the coming of the fit, according to the received custom of that time, it sometimes destroyed the patient ; which I remember happened to Mr. Underwood, a citizen and alderman of London, and to Captain Potter, an apothecary in Black Friars. This fatal effect of it, though very rare, did, however, justly prevail with the most prudent physicians to refrain its use. 2. Because though it seldom failed to free the patient from the fit, that would otherwise have come, yet the fit commonly returned again in a fortnight, especially when the disease was recent, and not spontaneously abated by length of time. These reasons weighed so much with the generality, that they lost all the hopes they had formerly conceived of this medicine ; nor did they esteem it so material to prevent the access of a fit for a few days, as upon this account to endanger their lives by taking it.

18. But having some years since thoroughly considered the extraordinary virtues of the bark, I was firmly persuaded that intermittents could not be better cured than by this efficacious medicine, provided it were given with proper caution. For this reason I spent much time in studying how to prevent the danger ensuing from its use, and the relapse that succeeded in a few days, which were the two inconveniences to be avoided, and by means thereof to restore the patient to perfect health.

19. 1. I conceive that the danger proceeded less from the bark itself, than from the unseasonable use thereof ; for when a large quantity of febrile matter is collected in the body on the well days, the bark, if taken immediately before the fit, obstructs the expul-

sion of the morbid matter in the natural way (namely, by the violence of the fit) which being hereby improperly detained usually endangers life. But I judged I could remedy this evil, and likewise prevent the fresh generation of febrile matter, by giving the powder directly upon the departure of the fit, so that a stop might be put to the next succeeding one; and by repeating it on the intermediate days, at proper distances, till the approach of a new fit; so that by this means the blood might be impregnated gradually, and consequently safely, with the salutary virtue of the bark.*

20. 2. As the relapse, which generally happened in a fortnight, seemed to me to be occasioned by not sufficiently impregnating the blood with the virtue of the febrifuge, which, however efficacious, was not powerful enough to cure the disease at once, I judged that the best method to prevent a relapse would be to repeat the powder, at proper intervals, before the virtue of the preceding dose was quite spent, even though the intermittent appeared to be conquered for the present.

21. These considerations led me to the following method, which I now use. When I am called to a person afflicted with a quartan, suppose on a Monday, if the fit is expected the same day, I refrain from doing any thing, and only give the patient hopes that he shall be freed from the next fit. And, in order to effect this, I exhibit the bark upon the two intermediate or well days, namely, Tuesday and Wednesday, in the following manner:

Take of Peruvian bark, very finely powdered, one ounce; syrup of cloves, or of dried roses, enough to make it into an electuary; to be divided into twelve doses, whereof let the patient take one every fourth hour, beginning immediately after the fit is gone off, and drinking after each dose a draught of any kind of wine.

Or, if pills be more agreeable,

Take of the Peruvian bark, very finely pulverized, one ounce; syrup of cloves, enough to make it into pills of a middling size; of which let the patient take six every fourth hour.

* In this section our author is misled by his theory of concoction. Instead of waiting for the slow operations of nature, to eliminate a supposed morbid matter from the body, art should take the business out of her hands, and prepare the system for the use of the bark by means of depleting remedies.

But an ounce of the powder may be mixed with a quart of claret, with less trouble, and equal success, and eight or nine spoonfuls of it given at the intervals above mentioned. I order nothing on Thursday when the fit is expected, because for the most part it does not come, the remainder of the febrile matter being despumated, and expelled the blood, by the usual sweats which terminated the preceding fit, and a collection of fresh matter being prevented by the repetition of the powder on the days between the fits.

22. But in order to prevent a relapse, which was one of the inconveniences above recited, on the eighth day after taking the last dose, I always ordered the same quantity of the powder, (viz. an ounce divided into twelve doses) to be taken exactly as the former was. But though a single repetition of the bark in this manner frequently cures the disease, yet the danger is not over unless the patient will be ruled by his physician, and repeat it thus a third or fourth time; especially when the blood has been impoverished by some preceding evacuation, or the body unadvisedly exposed to the cold air.

23. Now though there is no inherent purgative virtue in this medicine, yet a violent purging is frequently occasioned thereby, from some peculiar idiosyncrasy in the constitution. In this case it is indispensably necessary to exhibit laudanum therewith, to prevent its having this effect (which is manifestly as opposite to its own nature, as it is to this disease) and that it may be retained long enough to answer its ends. Therefore I order ten drops of laudanum, to be given in a little wine, after every other dose of the powder, if the looseness continues.

24. I follow the same method in other intermittents, whether tertians or quartans; for immediately after the fit is gone off, in both I administer a dose of the powder, and repeat it as frequently during the intermission, as the nature of the disease will admit; but with this difference, that whereas a quartan can very rarely be cured with less than an ounce divided into proper doses, a tertian may be so far conquered with six drams, or at least to give a respite.

25. But though tertians and quotidians after a fit or two may seem entirely to intermit, yet, as I have before observed, they afterwards frequently degenerate into a kind of continued fever, and only come to a remission even on those days that promised an intermission; especially when the patient has been kept too warm in bed, or been tormented with medicines to carry off the intermittent by sweat. In this case, I have no other way left, but to seize the opportunity of the remission, though it be ever so small; and accordingly I give the powder immediately after the fit is gone off, as near as I can conjecture, and repeat it every four hours, as above mentioned, without waiting for a regu-

lar intermission, because otherwise the alexiterial virtue of the bark cannot be communicated to the blood in so short an interval.

26. And though the present reigning intermittents, after the second or third fit, incline to continued fevers, yet they must be referred to the intermittent kind; and therefore I scruple not to order the bark, even in the most continued of this sort; the repetition of which in the above-mentioned manner will certainly remove the disease, provided the constant warmth of the bed, and the improper use of cardiacs, have not rendered it a continued fever; in which case I have frequently found the bark fail. Nor have I ever found the wine wherein the bark is administered, do the patient any harm, which might reasonably be suspected; but contrariwise, the heat, thirst, and other febrile symptoms, generally went off, soon after taking a sufficient quantity of it. But it must be noted here, that the nearer the intermittent approaches to a continued fever, either spontaneously, or from using too hot a regimen, the more necessary it is to exhibit a large quantity of the bark; for I have sometimes found that the intermittent would not yield to less than an ounce and half, or two ounces of the bark.*

27. As some persons can neither take the bark in powder, in an electuary, nor in pills, I give them an infusion of it, made with two ounces of bark, grossly powdered, and infused cold for some time in a quart of Rhenish wine; which being several times passed through a fine strainer, becomes so clear, as not to be disagreeable to the nicest palate. Four ounces of this infusion, after it had stood some days, should seem equivalent in virtue to a dram of the bark in substance; and as it is neither unpalatable, nor lies heavy upon the stomach, it may be taken twice as often as any other form of it, till the disease vanishes.

28. When this disease has assumed no regular appearance, it is sometimes attended with an almost continual vomiting, so that the bark cannot be retained in any form; in which case the vomiting must be stopt first, before it can be administered. For this purpose I order a scruple of salt of wormwood to be dissolved in a spoonful of fresh juice of lemons, and taken six or eight times in the space of two hours; and afterwards I give sixteen drops of liquid laudanum in a spoonful of strong cinnamon water; and soon after, if the vomiting stops, the patient must begin with the bark.

* That is, the more morbid action there is in the blood vessels, the larger doses of bark will be necessary to overcome it. Moderate depletion in these cases will render extraordinary doses of bark unnecessary.

29. For children, who, by reason of their tender age, can scarce bear to take this remedy in any other form, at least in a suitable quantity to effect a cure, I generally prescribe the following julap :

Take of black-cherry water, and Rhenish wine, each two ounces ; Peruvian bark, finely powdered, three drams ; syrup of cloves, an ounce : mix them together for a julap. Let the child take a spoonful or two every fourth hour (according to his age) till the fits vanish, dropping into every other dose, in a case of a looseness, one or two drops of liquid laudanum.

30. It must farther be observed, that the intervals between the fits in tertians and quotidians are so short, that there is not sufficient time to impregnate the blood thoroughly with the febrifuge virtue of the bark ; so that it is not possible that the patient should so certainly miss the next fit the first time of taking it, as it commonly happens in a quartan ; for the medicine in these cases will frequently not perform the expected cure in less than two days.

31. It must also be noted, that if the patient, notwithstanding the observance of the cautions above delivered, should relapse, which happens seldomer in a quartan than in tertians or quotidians, it will become a prudent physician not to adhere too closely to the method of giving the bark at the above-mentioned intervals, but to attempt the cure, as his judgment shall direct, by some other procedure ; and here the bitter decoction is generally esteemed a very powerful medicine.

32. With respect to diet and regimen, the patient must be allowed the use of all sorts of solid or liquid aliments that agree with his stomach ; fruit and cold liquors always excepted, because they impoverish the mass of blood, and are very apt to occasion a relapse. Let his food therefore be flesh of easy digestion, and good juices, and let him use wine moderately for his common drink ; by the sole use whereof I have sometimes recovered such habits as have been in a manner fortified by the frequent return of the intermittent against the bark, so as never to yield to its salutary virtue.* The patient likewise must not

* By the disuse of the bark for a few days or weeks the system generally recovers its susceptibility to its action. It is further aided by a portion of the rust of iron, or of the powder of cloves, or any other aromatic substance being added to it.

advisedly expose himself to the cold air, till the blood has recovered its former healthy state.

33. It must be noted here, that though, in treating of intermittents heretofore, we recommended due purging after the disease was gone off, yet this practical caution is only to be understood of such intermittents as either went off spontaneously, or were cured by some other medicine and not by the bark. For when the cure is effected by this, cathartics are unnecessary and hurtful; so powerfully does the bark, alone, relieve the fits, and the indisposition they occasion. Hence therefore all kinds of evacuations must be restrained; for the gentlest purge, nay even a glyster of milk and sugar, will certainly endanger a relapse, and perhaps re-produce the disease.

34. And here it is proper to mention, that a very remarkable symptom did sometimes succeed these intermittents in the first years of this constitution. For the fits did not begin with chillness and shivering, which were succeeded by a fever; but the patient was seized with the symptoms of a true apoplexy, though in reality, how nearly soever it resembled this disease, it was nothing more than the effect of the fever's seizing the head; as plainly appeared from other signs, as well as the colour of the urine, which in intermittents is mostly of a deep red (but not so red as in the jaundice) and likewise lets fall a lateritious sediment. Now though in this case all kinds of evacuations seem to be indicated, in order to make a revulsion of the humours from the head, as is generally practised in the genuine apoplexy, yet they are to be wholly refrained, because they are very prejudicial in the intermittents, whence this symptom originally proceeds, and consequently endanger life, as I have observed. On the contrary, therefore, we must wait till the fit goes off spontaneously, when the bark (in case it could not be given sooner) must be immediately exhibited, and carefully repeated in the intervals, till the patient be perfectly recovered.*

35. It sometimes happens, though very rarely, that the aged, after having been long afflicted with this disease, and weakened by improper bleeding and purging, are seized with a diabetes, though the intermittent be perfectly cured. For their blood being by this means so impoverished, as to be utterly unable to assimilate the juices received into the mass, they pass off crude and undigested by the urinary passages, and, in consequence of the large quantity of urine which is voided every time they make water. the strength is gradually impaired, and the substance of

* This practice is reasonable and correct. The editor has imitated it with success.

the body in a manner washed away. The indications of cure in this case, and in every diabetes, however occasioned, are, 1. to enrich and strengthen the blood, and 2. to stop the preternatural discharge by urine.

For instance, Take of Venice treacle, an ounce and half ; conserve of orange peel, one ounce ; diascordium, half an ounce ; candied ginger and nutmeg, of each three drams ; Gascoign's powder, a dram and half ; of the outward bark of pomegranate, the root of Spanish angelica, red coral prepared, and the troches of Lemnian earth, each a dram ; bole-armoniac, two scruples ; gum arabic, half a dram ; syrup of dried roses, enough to make altogether into an electuary ; of which let the patient take the quantity of a large nutmeg in the morning, at five in the afternoon, and at bedtime, for the space of a month, drinking after each dose six spoonfuls of the following infusion :

Take of the roots of elicampane, masterwort, angelica, and gentian, of each half an ounce ; the leaves of Roman wormwood, white horehound, the lesser centaury, and calamint, each one handful ; juniper berries, an ounce ; when these ingredients have been sliced and bruised, as they require, pour upon them five pints of canary, and let them stand together in a cold infusion, and strain it as it is used.

The patient's diet should be food of easy digestion, as veal, mutton, and the like ; he must forbear garden herbs, and fruits of all kinds, and drink Spanish wine at meals.*

36. That obstinate and lasting disease, the fluor albus, may be cured nearly by the same method and medicines as the diabetes just mentioned ; for the curative indications in both are the same, how much soever these diseases may seem to differ. But in the cure of the fluor albus bleeding must be used once, and afterwards purging thrice with two scruples of the greater pil. cochia, before we proceed to strengthening medicines ; but no oftener during the whole process, because all kinds of evacuations destroy the virtues of strengthening remedies. But this by the way.

* The remedies for the diabetes, should be regulated by the state of the system. They should be bleeding, purging and low diet, where it is accompanied with a full pulse, and stimulants, and tonics, with a weak one. By means of remedies thus accommodated to the pulse, the disease has been cured in several instances, not only in the United States, but in Great Britain.

37. And these are the observations I had to communicate, in a summary way, concerning the use of the Peruvian bark; for my design was not to consult the pomp of medicine. And in reality they who add any thing more to it than a vehicle which is necessary to carry it into the stomach, in my opinion, either do it ignorantly, or fraudulently, which every good man must needs detest, who, as a part of the community, would not be induced to commit such a fraud for his private advantage. As to what remains, if my contemporaries had vouchsafed to consider what I published four years ago in my history of acute diseases, (which, it is highly probable, I was acquainted with before that time) concerning the method of exhibiting the bark in the intervals of the fit, and the succeeding repetition of it, when the disease is gone off, perhaps the lives of many persons had been saved; how much soever some men contemned my slender endeavours for the public good, and slighted the cautions there delivered in the following words, which briefly contain what I have here judged proper to enlarge upon, viz.

38. "The greatest caution must be had not to give it too early, namely, before the disease be in some measure spontaneously abated; unless the extreme weakness of the patient requires it to be exhibited sooner: for the administering it too soon may render it ineffectual, and even fatal, if a sudden check should be hereby given to the vigorous fermentation of the blood in the act of despumation. 2. We must not order purging, much less bleeding, to carry off a part of the febrile matter, and render the bark more effectual; for they both weaken the tone of the parts, whence the disease returns so much the more speedily and certainly, after the virtue of the bark is spent. It were better, in my opinion, to impregnate the blood with this medicine by degrees, and at distant intervals from the fit, rather than endeavour to stop it at once, just upon its coming; for by these means the bark has more time to produce its full effect in, and besides, the mischief is avoided that might happen by putting a sudden and unseasonable stoppage to the immediately approaching fit. 3. The bark must be repeated at short intervals, that the virtue of the former dose may not be entirely gone off before another be given; and by repeating it frequently the disease will at length be perfectly cured. These reasons led me to prefer the following method of giving it:

"Take of the Peruvian bark, one ounce; syrup of roses, two ounces; make an electuary thereof: take the quantity of a large nutmeg, every morning and night, on the inter-mediate, or well days, till the whole be taken; and let

“ it be repeated thrice, interposing a fortnight between each time.”

39. But though the bark is the best medicine hitherto discovered, for the cure of these diseases, yet I have known persons in the prime of life, and of a sanguine constitution, cured of vernal tertians by the following remedies. For instance; let the patient be blooded in the arm on the intermediate day; and some hours afterwards upon the same day, give an emetic of the infusion of crocus metallorum, regulating the time in such manner that its operation may be over before the fit comes; and as soon as it is gone off, let him begin with the following electuary :

Take of the extract of wormwood, gentian, and the lesser centaury, each two drams; mix them together; divide the whole into nine doses, of which let one be taken every fourth hour, drinking after each dose, of the bitter decoction without purgatives, and of white wine, each three ounces.

40. There is another method of curing these tertians in persons of low circumstances, who are unable to bear the expence of a long course of medicines :

Take of Virginian snake weed, in fine powder, a scruple; white wine, three ounces: mix them together. Let the patient take it two hours before the fit comes, and being well covered with cloaths, sweat three or four hours afterwards, and let it be repeated twice in the same manner.

41. In the following year, viz. 1679, these intermittents reappeared at the beginning of July, and increasing every day proved very violent and destructive in August. But having already treated of these at large, I shall only observe, that they gave way to a new epidemic which proceeded from the manifest qualities of the air in November.

42. For at the beginning of this month a cough arose, which was more epidemic than any I had hitherto observed; for it seized nearly whole families at once. Some required little medicine, but in others the cough occasioned such violent motion of the lungs, that sometimes a vomiting and a vertigo ensued. On the first days of the disorder, the cough was almost dry, and the expectoration not considerable, but afterwards the matter in some measure increased. In short, from the smallness of the expectoration, the violence of the cough and the duration of the coughing fits, it seemed greatly to resemble the convulsive hoop-

ing cough of children ; only it was not so severe. But it was attended with a fever and its usual concomitants, in which particular it exceeded the convulsion cough, for I never knew that accompanied with those symptoms.

43. Though coughs are common at the beginning of winter, yet every body wondered to find them so very frequent this year ; which I conceive proceeded chiefly from this cause : the month of October having been wetter than usual, (for it seldom ceased raining) the blood, corresponding with the season, drank in abundance of crude, watery particles, by reason that perspiration was stopt upon the first coming of the cold, whence nature endeavoured to expel them, by means of a cough, through the branches of the pulmonary artery, or as some will have it, through the glands of the windpipe.*

44. When there is occasion for medicine, I am sure the cure is best attempted by evacuation, namely, by bleeding and purging ; for the redundant serous particles cannot be so commodiously expelled by any other method, as by these two evacuations, which greatly empty the veins.

45. For as to pectorals, setting aside their pleasing the patient, I own I do not conceive how they can contribute to remove the cause of the cough ; since their whole operation seems to consist, either in thickening the matter when it is too thin to be expectorated, or in attenuating it when, by reason of its viscidities, it comes up with difficulty. This I certainly know, that it is lost time to give such medicines, and that sometimes the blood is so impoverished by the retention of the serous particles which are prejudicial to nature ; and further, that the lungs, irritated by the violence of the cough, are so shaken by the great and almost continual motion, that a consumption is often occasioned thereby, from which the patient should be freed by hastening the cure. Nor are sudorifics much safer ; for sometimes they cause a fever, and sometimes also the particles of the blood, which are easily inflam-

* The disease under consideration appears to have been the influenza. Our author ascribes it to what he calls a manifest quality of the atmosphere ; but its existing independently of its sensible qualities, and its not occurring uniformly in such weather as our author has mentioned, renders it probable that it depends upon an insensible matter in the air, and hence the rapidity with which it spreads through whole countries, and sometimes over half the globe. In no instance do contagious diseases spread with the twentieth part of the rapidity of the influenza. The small pox was fifty years in affecting every part of Europe after its importation from the east, and we find from our author's account of that disease, that it was several years before it affected all the inhabitants of the compact city of London.

ed, are so thrown upon the pleura, that a pleurisy is occasioned, which happened to great numbers in the course of this epidemic cough, and was very dangerous.

46. Accordingly I took away a moderate quantity of blood from the arm, and applied a sufficient large and strong blister to the neck, in order to make a revulsion of part of the peccant matter. Afterwards I exhibited a lenient cathartic every day, made of an infusion of senna and rhubarb, with manna, and solutive syrup of roses, till the symptoms abated considerably, or a perfect recovery ensued; or if draughts were disagreeable, I directed two scruples of the greater pil. cochia, to be taken every morning at five o'clock, sleeping upon them.

47. By this practice of venesection and repeated purges, and by this only, is conquered the convulsive or whooping cough in children; an obstinate disorder, which scarcely any other method will subdue. What the skill of others may effect in this case, I am not able to say; but know that, for my own part, I have tried remedies of almost every other kind, and tried them in vain. It must be observed, that only the milder cathartics are to be used, and these given only by spoonfuls, with due regard to the age of the patient. Such gentle and gradual evacuations effect the cure, as I imagine, by easing the lungs, which though they are not found in this distemper to contain much of any serous humour, yet are forced into these violent fits of coughing, by fervid and spirituous vapours thrown upon them, at certain times, by the mass of blood; and therefore best relieved by directing these vapours through the lower bowels, and breaking their force by a contrary direction.

48. But in the first stage of epidemic diseases, of whatsoever kind they be, great care must be had not to purge before bleeding. For the diseases which arise from an epidemic constitution of the air, are either actually fevers, or upon the least occasion degenerate into fevers; so that a fever may easily be caused by the disturbance raised in the blood and juices by the mildest purgative, and the heat succeeding it, which nature had otherwise expelled by the usual evacuations of the morbid matter; as for instance, by a catarrh or an epidemic cough, of which we now treat, or by a diarrhœa, when the epidemic fever has a tendency to that discharge. The same may be said of any other constitution of the air, that disposes the body to some peculiar fever, which does not always actually happen, because nature expels the morbid matter from the blood by some suitable evacuations. This I always maintain, though the present practice is to exhibit cathartics before bleeding, or, which is still more dangerous, without bleeding at all.

49. For though it may be objected, that by bleeding before purging, the foul humours contained in the first passages are pro-

pelled into the empty veins, yet it is most certain that the evacuation which precedes bleeding cannot make amends for the injury which the blood receives, from the tumult raised therein by the cathartic. And it must be owned, that a purge, taken immediately after bleeding, works much more gently, and heats and agitates the blood less than it usually does when exhibited before bleeding; and I am apt to think that numbers, and of children especially, have perished for want of knowing this, or through a neglect of it.*

50. And this I have learnt from a long course of experience, which is the surest guide in these cases; and unless practice be regulated thereby, it were better to discard the art. For the lives of men are but too much trifled with; on the one hand by empirics, who are ignorant of the history of diseases, and the method of cure, and only provided with receipts; and on the other hand by such idle pretenders, as rely wholly upon theory: whence both together destroy greater numbers than the diseases would, if they were left to themselves.

51. But that method of practice, and that only, will relieve the patient, which deduces the indications of cure from the symptoms of diseases, and afterwards confirms them by experience; by which means the great Hippocrates gained such an extraordinary character. And if the art of medicine had been delivered by any person according to this method, though the cure of a disease or two might have been no secret to any of the common people, yet the whole art would then have required more prudent and skilful men than it now does, nor would it have lost any credit thereby. For as the operations of nature, upon the observation whereof true practice is founded, are much more subtle than those of any art, though established upon the most likely hypothesis; so, of course, the science of medicine, which nature teaches, will exceed an ordinary capacity in a much greater degree than that which is taught by philosophy.

52. We have a proof of this in fevers, which constitute two parts in three of the employment of physicians, and I appeal to any thinking person for the truth of what I assert. For is there an empiric, though ever so illiterate, who will acknowledge himself unable to cure a fever, if, according to the general received opinion, only these two indications are to be regarded, 1. to expel the morbid matter by means of sudorifics, and 2. to relieve

* It is certain bleeding, when indicated, favours the operation of purges, and renders them more useful. In many cases the stomach will not retain them, nor will the bowels yield to the most active of that class of medicines until the blood vessels are relaxed by bleeding.

the symptoms which succeed evacuations of this kind ? For he is very sure that VENICE treacle, GASCOIGN's powder, plague-water, and the like, given internally, along with a hot regimen, will force sweat ; which is all he proposes in the cure of this disease, especially if he has chanced to hear of the term malignity. And as to relieving the symptoms, diacodium is in readiness to cause sleep, in case of watchings, and a glyster, when the patient is costive, and so of the rest. But he cannot of himself discover, or judge by his prescriptions, what kind of fever it is which he attempts to cure, if we only believe, as posterity perhaps will, that there are various sorts of fevers, most of which require their peculiar method of cure different from the rest ; and further, that the same individual fever, of whatever kind it be, requires one treatment at the beginning, and another somewhat different through all its stages, as long as it continues.

53. Now if a person be ignorant of the natural history of the disease, which only can point out the true method of cure, how shall he be able to deduce the indications of cure from some less remarkable symptom, when he cannot judge whether it proceeds from his method of cure, or the disease itself ; it would take up too much time to enumerate the manifold and minute particulars that must be attended to in the cure of this and other diseases, which being so numerous, and so momentous to the preservation of the lives of mankind, there will always be room for posterity to add to those observations, wherein the almost infinite variety of the operations of nature in the production of diseases, with the indications of cure thence derived, are delivered. Nor will the publishing such observations at all diminish, but rather add to the reputation of the art, which being rendered more difficult, only men of learning and sound judgment would be esteemed physicians. But these particulars by the way.

54. When the abovementioned cough was unskilfully treated, it caused a fever, resembling that which was so very epidemic in the winter of 1675, the history whereof we have already delivered. But as this fever was only a concomitant, and an effect of the epidemic cough, I cured it by the same method which I have delivered above for the cure of that cough, viz. by bleeding, applying an epispastic to the neck, and afterwards purging thrice. For though no time was fixt for the continuance of purging in a cough unattended with a fever, which, as I observed above, is to be continued till the symptoms be considerably abated, or the patient recovers ; yet in the fever proceeding from the cough, purging for three days proved sufficient to conquer it ; as I have frequently observed in the constitution under consideration.

55. But it is to be noted here, that though this fever was accompanied with violent defluxions upon the lungs at the beginning, yet in a month or two afterwards, when the collection of

serum was gradually expelled from the blood, the fever manifestly appeared to be of the same kind, though it was unattended with a cough; the blood not having yet recovered its healthy state, so that it did not require a different treatment from that which the cough accompanied.

56. This fever continued in the abovementioned manner till the beginning of 1680, when I wrote these observations; and as the year advanced, intermittents arose, which remained without any alteration till the beginning of 1685, when I was preparing the second edition for the press. And though they are less epidemic in this city now than they were during the first four years, and likewise milder, yet they rage as violently in other places as they formerly did. For the general constitution still favours intermittents so much, that I can affirm that I have not hitherto met with a continued fever, unless it proceeded from wrong management, or was one of these intercurrents, which generally happens every year: so powerfully does this constitution tend to produce intermittents. And doubtless the force thereof must be weakened, before that which I call the depuratory continued fever can become epidemic. For in the intermittent species, nature seems to operate with too much haste and violence, running through the stages of concoction and despumation of the morbid matter too soon; which happens otherwise in the depuratory fever, wherein the signs of the concoction of the febrile matter to be expelled, sometimes by sweat, or rather by a freer perspiration, do not appear before the thirteenth or fourteenth day.

57. These particulars being well considered, I doubt not that the epidemic depuratory fevers of the years 1661, 1662, 1663, and 1664, were only the remains of certain intermittents which had prevailed for a certain course of years before; but how long they prevailed I know not. For when the constitution which favoured intermittents became milder and declined, the fevers it afterwards generated were more humoral and earthy, whence the depuration of the blood went on by slow degrees; whereas those in the first years of this constitution were produced by more subtle principles, and, being intermittents, generally finished their course in a little time. Now, allowing this to be the case, it seems probable to me, that this depuratory fever will return as soon as the present constitution abates a little, and continue for a certain term of years, before the plague arises.

58. But throughout those years in which this fever shall prevail (how many soever they may be) intermittents may at times appear, and perhaps prove epidemic for a short space, namely, when some manifest temperature of the air shall contribute thereto. Whether the bark will cure this fever as certainly as it usually does the present reigning intermittents, I cannot say; but if it be given in the plague, and the continued epidemics which will

regularly follow this, we must expect the same effects from it, which we now find it produces in the pleurisy, the peripneumony, quinsey, and the like inflammatory fevers, in which disorders it not only does no service, but is manifestly pernicious. But however this be, epidemics will succeed each other hereafter, in the manner above delivered, provided nature does not deviate from the order it hath kept for these last twenty-four years.—And these, Sir, are the principal observations I have made of the epidemic diseases of the foregoing years.

59. As to the cure of the rheumatism, which you likewise desire to be informed of, I have frequently regretted, as well as you, that it could not be accomplished without the loss of a large quantity of blood by repeated bleeding; whereby the strength is not only impaired for a time, but weak persons are usually more disposed to other diseases for some years; when the matter occasioning the rheumatism afterwards falls upon the lungs, the latent indisposition in the blood being put into action, by taking cold, or some other slight cause. These reasons induced me to search after some other method of curing this disease, than such repeated bleeding. And having well considered, that it seemed to proceed from an inflammation, as appears from the other symptoms, but especially from the colour of the blood, which exactly resembles that of pleurisies, I judged it might probably be as successfully cured by a plain, cooling, and moderately nourishing diet, as by repeated bleeding; and the inconveniences likewise attending that method avoided. Accordingly I found that a diet of whey used instead of bleeding had the desired effect.*

60. I was called last summer to Mr. Malthus, an apothecary in my neighbourhood, who was afflicted with a severe rheumatism, accompanied with the following symptoms: During the first two days he was attacked with a lameness in his hip, which was succeeded by a dull pain of the lungs, with a difficulty of breathing, which likewise went off in two days, then he was seized with a violent pain of the head, and soon after with a pain of the right hip, which was first attacked, and afterwards almost all the joints of the arms and legs were affected by turns, according to the nature of the disease. As he was of a weak and dry constitution, I was apprehensive that by taking away too

* The practice of our author was probably equally correct when he used copious bleeding, and when he relied exclusively upon a simple diet. Different constitutions of the atmosphere render remedies the opposites of each other, alike proper, and alike successful in the same disease.

much blood, his strength, which was already declining, might be quite exhausted; especially, as the summer was so far advanced, that it was to be feared that winter would come, before he could recover his strength impaired by frequent bleeding; and therefore I ordered him to live upon whey only for four days, after which I allowed him white bread, besides the whey, for his common food, namely, once a day, instead of a dinner, till he recovered. Contented with this slender diet, he persisted in it eighteen days, only towards the latter end I permitted him to eat white bread at supper also. He drank a gallon of whey every day, which afforded him sufficient nourishment. At the end of this term, when the symptoms were gone off, and he got abroad, I allowed him to eat flesh; as boiled chicken, and other food of easy digestion. But every third day he lived upon whey only, till at length he recovered, and by this method escaped the inconveniences I mentioned above, which had been very troublesome ten years before, when frequently repeated bleeding was used by my order for his cure.

61. If any one should lightly esteem this method, by reason of its inelegance and plainness, I must tell him, that only weak minds slight things because they are common and simple; and that I am ready to serve mankind, even at the expence of my reputation.* And I must add, that, were it not for the prejudice of the vulgar, I am certain that this method might be suited to other diseases, which I shall not now enumerate. And in reality, it would be much more serviceable than the pompous garlands of medicines, with which such as are ready to expire are crowned, as if they were to be sacrificed like beasts.

62. But that the most common things may be so ordered by a skilful physician as to prove preventive of imminent death, will appear from the following observation; which, though it has no relation to the disease under consideration, is not quite foreign to my purpose. About two months since a person in my neighbourhood desired me to visit his servant, who had taken a large quantity of mercury sublimate, being melancholy mad for love, as I afterwards heard. The poison had been swallowed near an hour when I came, and his mouth and lips were much swelled; he was extremely sick, had a burning pain in the stomach, and was almost killed with heat. I ordered him to drink three gallons of warm water as quick as possible, and to take a large draught of the same after each time of vomiting; and as soon as it appeared, from the gripings, that the poison was going downwards, I likewise directed warm water alone, to be plentifully

* A noble declaration! and which was exemplified by our author, in a high degree, during the whole of his active and useful life.

thrown up by way of glyster, in order to wash his bowels. The wretch complied, being now very desirous to live, and drank several pints of water more than I directed. He told his friends that were by, that the water which first came up was very acrid, by reason of its being saturated with the poisonous salt; but that it was less acrid after every vomiting, till at length it became insipid, and the gripes that succeeded were remedied by injecting water alone, glysterwise. By this simple method the patient was recovered in a few hours, only the swelling of his lips did not immediately fall, and his mouth remained ulcerated, occasioned by the particles of the poison, which came up with the water by vomiting; but these symptoms yielded in four days to a milk diet. I preferred water to oil, (which is generally used by the unskilful without success) and all other liquors, because being very thin, it seemed fitter to absorb the particles of the poisonous salt, than any other liquor that was thicker, or already impregnated with the particles of some other body.

63. But to return to the rheumatism; how suitable soever a milk diet may be to young persons, and such as have lived temperately and by rule, it is notwithstanding unsafe to treat the aged in this manner, and such as have long accustomed themselves to too free an use of wine and other spirituous liquors; for it injures their stomachs, and by considerably chilling the blood, disposes to a dropsy. In this case, therefore, it is highly proper to use nearly the same method of cure, which I have already delivered; though since I wrote that, I have found by experience that it is better after the second or at most the third bleeding, to purge often, till the symptoms go off entirely, than to trust to bleeding only. For purging being an assistant to bleeding in the cure of this disease, it will not be necessary to lose so much blood; and besides by this means there will be place left for opiates, which otherwise must be refrained, how severe soever the pain might prove, because they fix the disease and it does not yield so easily to bleeding. But the purgatives should be of the milder kind, as tamarinds, senna, rhubarb, manna, and solutive syrup of roses; for such as are made of scammony, jalap, and the like, occasion great disturbance, and increase the pain. And every evening after the purge has done working, let an ounce of diacodium be given somewhat earlier than ordinary.

64. It must be noted here, that during the present constitution I have met with a certain symptom, at one time resembling the rheumatism, and at another the nephritic pain, in the violent pain in the loins; which, as it used to succeed intermittents, proceeds from a translation of the febrile matter to the muscular parts of the body. But this disorder did not require a different treatment from the intermittent which it accompanied; for it is in-

creased, and life endangered, by frequent bleeding, and any other evacuation.—I judged it proper to drop this short hint concerning it, that no one might be misled thereby.*

65. To conclude. These, worthy Sir, are the particulars which I have learnt from diligent observation, relating to the diseases which are the subject of your inquiries; and if they prove acceptable to you, or useful to others, I have gained my end; at least I enjoy the satisfaction of having done my duty, by complying with your request in the best manner I am able, who am ever

Your most devoted servant,

THOMAS SYDENHAM.

* Behold! another striking instance of the unity of disease, and of the benefits to be derived from a physician keeping his eyes steadily fixed upon the reigning epidemic, when he meets with other diseases; or with symptoms of diseases which do not usually belong to it.

AN EPISTLE OF DR. HENRY PAMAN, TO DR. SYDENHAM.

WORTHY SIR,

THE healing art hath been greatly improved by your complete history of acute diseases, founded upon diligent observation and faithful experience; and written with an upright and honest view, and not to acquire riches or fame: for you are satisfied with having done your duty, and serving the present age to the best of your ability. I have hitherto concealed my desires, but it may be you have long imagined what I am going to request. He that commends your works, incites you to do something which may still add to your reputation. It is a most difficult task to treat of acute diseases, because they terminate so speedily, that, unless they be seasonably checked, life is imminently endangered thereby; no medicines being afterwards powerful enough to prevent death: but you have enumerated their symptoms, and directed what is necessary to be done in every exigency. In effect, your essays on this subject are a finished performance, and could admit of no addition, had not you promised us a treatise of chronic diseases, which may be respited, and allow time for inquiry.

We have frequently conversed together about the venereal disease, of the infamous origin of which the Europeans solicitously endeavour to clear themselves, and, to make its traces still more obscure, banish it to the remotest Indies. It is a fit punishment for the unbridled lust of the lascivious, and perhaps the cure is attended with greater difficulty, that the repentance may be proportioned to the crime. And he seems to have been touched with a sense of humanity and sin at the same time, who openly wished that this foul distemper might be but once cured.

But as the treatment of it often falls to the share of empirics, barbers, and such unskillful persons, they either fraudulently or ignorantly prolong it for such a length of time, to the great expence and greater affliction of the patient, that life becomes burdensome to him through the violence and tediousness of the process, and the disease a less evil than the cure.

I intreat you, therefore, as a friend, to fulfil your promise, and publish your remarks on this disease first, as an earnest of the rest. Inform us truly by what method and medicines it may be cured; for it is enough for the patient to be punished by the Supreme Being, and not to be tormented more severely by his physician. Such a work would be well received by many per-

sons; and I should have some share of the praise that will thence accrue to you, on account of your publishing it at the request of,

SIR,

Your most obedient servant,

Lambeth House, }
Feb. 12, 1679-80. }

H. PAMAN.

DR. SYDENHAM'S ANSWER TO HENRY PAMAN, M. D. FELLOW OF ST. JOHN'S COLLEGE IN CAMBRIDGE, PUBLIC ORATOR OF THAT UNIVERSITY, AND PROFESSOR OF PHYSIC IN GRESHAM COLLEGE; CONTAINING THE HISTORY AND TREATMENT OF THE VENEREAL DISEASE.

WORTHY SIR,

1. **THOUGH** in civility to me you obligingly term my late treatise on acute diseases a finished performance, yet so conscious am I of my own inability and its defects, that I reckon I have only pointed out the way, by which men of greater abilities may investigate the history and cure of these diseases.

—Let me sharpen others, as the hone
Gives edge to razors, though itself has none.

FRANCIS'S HORACE.

2. And, in reality, so various, uncertain, and subtile is nature's procedure in the production of these diseases, that the oldest physician living is not able scientifically to describe their different symptoms, and proper methods of cure. Such a work would afford sufficient employment for any ten physicians succeeding each other for as many ages, and those also men of eminent parts, indefatigable industry, and of a very great practice, which may furnish them with numerous observations; so far am I from having attained, or imagining I ever shall attain, the art of physic.

3. As to these chronic diseases, the history whereof I promised you to write, my thoughts are so taken up with it, that if I know my own mind, I do not so much wish to have my life prolonged for any other reason, as that of being serviceable to mankind in this way. But daily experience convinces me how

difficult and hazardous an undertaking this is, especially for me, whose abilities are unequal to the task; for among medicinal writers, excepting Hippocrates, and a very few others, we meet with little to assist us in our inquiries into so intricate a subject; the assistance and light which authors promise, being rather false than true lights, which tend to mislead, and not to direct the mind in its researches after the genuine procedure of nature. Most of their writings are founded upon hypotheses, and the result of a luxurious imagination; and the symptoms of diseases (wherein their true history consists) as described by them, appear to be deduced from the same source; and the method of cure, also, is derived from the same fictitious principles, and not from real facts, and thus becomes most destructive to mankind: so full of specious reasoning is every page of the writings of such superficial men, whilst the directions of nature are overlooked. But notwithstanding these obstacles, if God prolongs my life, and I can find leisure, I may perhaps put my abilities to the test. In the mean while, to convince you of my readiness to serve you, I present you with this short dissertation on the venereal disease, as a specimen of the whole; it being the only one I have yet prepared for the press.

THE HISTORY AND TREATMENT OF THE VENEREAL DISEASE.

4. But in the first place I must observe that I have met with several, who either with a good intent, in order to deter the incontinent from their vicious practices, by the apprehension of the succeeding punishment, or to acquire the character of chaste persons themselves, have not scrupled to assert that the cure of the venereal disease ought to be kept secret. But I cannot be of their opinion, because I conceive that there would be very little room left for charity, or doing good offices, unless the misfortunes which thoughtless persons bring upon themselves by their own fault, were to be alleviated with humanity and tenderness. It belongs to God to punish the offence, but it is our duty to assist the distressed, and relieve the diseased to the best of our power, and not to make too strict an inquiry into the cause of the evil, and irritate them by our censures. For this reason, therefore, I will deliver what I have observed and experienced in this disease; not that I intend to make men's minds more vicious, but to cure their bodies, which is my province.*

* Our author's reasonings in this section are founded upon the principles of Christianity, and are calculated to show how very applicable they are to the interests, not only of individuals, but of so-

5. The venereal disease was first brought from the West Indies into Europe, in the year 1493, for before that time the very name of it as far as we can collect, was unknown amongst us; whence this disease is generally reputed to be endemic in those parts of America where we first planted our colonies. But to me it rather seems to have taken its rise from some nation of the blacks upon the borders of Guinea; for I have been informed by several of our countrymen of great veracity, who lived in the Carribbe islands, that the slaves which are newly brought from Guinea, even before they land, and likewise those that live there, are afflicted with this disease, without having known an infected woman; so that it frequently seizes whole families, both men, women, and children. And, as far as I can learn, this disease, which so frequently attacks these miserable people, does not at all differ from that we call the venereal disease, with respect to the symptoms, viz. the pains, ulcers, &c. allowing for the diversity of climates; though it goes under a very different name, for they entitle it the yaws. Nor does their method of cure differ from ours, for in both cases a salivation raised by quicksilver carries off the disease; notwithstanding what we say here of the excellent virtue of guaracum and sarsaparilla in those places where they grow, which is judged to be nearly lost in their long passage to us.

6. It seems probable therefore to me, that the Spaniards, who

ciety, and in a way too, which it was not until lately, discovered. A patient is never admitted into a venereal hospital in Louvain, who is not previously subjected to a course of religious penance. This is so severe, as to prevent applications for admission into it in the early stage of the disease, in consequence of which, it becomes inveterate, and in that state is propagated through the city, where it is said to exist in a worse form, and to be attended with more mortality, than in any other part of Europe. Some years ago fifteen shillings sterling were deducted from the pay of a sailor in the British navy, who contracted the venereal disease, for the benefit of the surgeon who cured him. The effect of this regulation was to produce such delays in applying for relief, as to fill the naval hospitals with patients, who might have been cured in the early stage of the disease without the interruption of their ordinary duties. In consequence of this fact being made known, the regulation was abolished, and the evil that has been mentioned, immediately ceased. Many instances of impotence, deformity and death, have occurred in families, from the fear which young men feel of incurring the displeasure of their parents, by communicating to them the first symptoms of this disease, all of which have been prevented by a contrary conduct. It would seem from these facts, as well as many others connected with them, that there is no way of destroying the operation of injuries upon ourselves, and upon society, so effectual as by forgiving them,

first brought this disease into Europe, were infected with it by contagion communicated from the Negroes which they purchased in Africa, in some part whereof this disease may be endemic: for the barbarous custom of exchanging the natives with the Europeans for merchandize prevails in many places upon the borders of Guinea. However this be, this contagious distemper, spreading by degrees, so infected these parts, that if it had proceeded with the same rapidity wherewith it began, it would in a few ages have destroyed mankind, or at least have made the world an hospital, and rendered its inhabitants entirely unfit for the discharge of every social duty; but, like vegetables, being transplanted from its native place to a foreign climate, it flourishes less in Europe, languishes daily, and its symptoms grow gradually milder. For at the first appearance thereof, when a person was seized with it, it quickly infected the whole mass of blood, occasioning violent pains of the head and limbs, and discovered itself by ulcers in various parts: but it is an hundred years since it first manifested itself by a kind of virulent gonorrhœa, which sort of appearance it yet retains, endeavouring to go off by this discharge; and it is attended with no other apparent symptom, except in some few persons, who are seized in the beginning with a small ulcer of the pudenda, commonly called a shanker, the virulence whereof, not being expellable by a gonorrhœa, immediately affects the blood.

7. This disease is propagated, either 1. by generation, whence it is communicated to the infant by one of the infected parents; or 2. by touching some soft part, by means whereof the virulence and inflammation are communicated to the body, in the following manner; as 1. by sucking; thus the child may infect the nurse by the fine pores of the nipples of the breast; or the nurse the child by its tender mouth. 2. Children may gain the disease by lying in bed with infected persons. For though grown persons, whose flesh grows firmer with age, can scarce be infected by this means, without impure coition, yet the flesh of children being of a softer and finer texture easily admits the infection; which I have known got by lying in bed with infected parents. 3. The touching of a soft part, especially in impure coition, which is the most usual way of gaining the disease; for the penis being turgid with spirits designed for generation, readily imbibes the infection, from a venereal ulcer, or pustule in the vagina; both which lying hid in the body, the woman may nevertheless seem to be sound; the venom being so detained by the moisture of these parts, as to infect the blood very slowly, or, which oftener happens, being diluted, or in part expelled, by the menstrual purgations.

8. This infection, in my opinion, first attacks the fleshy substance of the penis, which it corrupts, first occasioning an inflam-

mation, and afterwards, by degrees, an ulcer, from which the matter that appears in a gonorrhœa, distils slowly into the urethra. I am inclined to believe this is the case, because I have seen such a virulent matter ooze from the porous substance of the glans, and not discharged from the urethra, and there has been no ulcer, either in the prepuce or glans, but at length penetrating deeper, it usually occasions an ill-conditioned ulcer of the prostate; which is frequently found in the bodies of such as perish by this disease.

9. This disease proceeds in the following manner: The patient, sooner or later, (according as the woman with whom he has lain was more or less infected, and according as his constitution renders him more or less disposed to receive the infection) is first seized with an uncommon pain in the parts of generation, and a kind of rotation of the testicles; and afterwards, unless the patient be circumcised, a spot, resembling the measles in size and colour, seizes some part of the glans, soon after which, a fluid like semen flows gently from it; which differing every day therefrom, both in colour and consistence, does at length turn yellow, but not so deep as the yolk of an egg; and when this disease is more virulent and severe, becomes green, and is mixed also with an aqueous humour, copiously streaked with blood. At length the pustule or spot terminates in an ulcer, at first resembling the aphthæ in the mouths of children, which spreads and eats deeper every day, and the lips grow callous and hard. But it must be observed, that this pustule is seldom attended with a gonorrhœa in those who have formerly had this disorder, or whose glans is bare; the hardness and firmness which this part acquires by being exposed to the air, and the frequent chafing of their linen, rendering it less apt in such persons to receive the infection; and for this reason, those that are circumcised seldom have an ulcer of the glans, but only a gonorrhœa.

10. The gonorrhœa, or running, is soon succeeded by other symptoms; as 1. a great sense of pain upon every erection of the penis, as if it were violently squeezed with the hand; this happens chiefly in the night, when the patient begins to be warm in bed, and I esteem this painful constriction of the penis the distinguishing sign in this state of the disease. 2. The penis likewise bends, occasioned by the contraction of the frænum, which being naturally stretched in every erection, causes violent pain. There is likewise 3. a heat of urine, which is scarce perceived in voiding it, but immediately after the patient feels an extreme heat throughout the whole duct of the urethra, especially at its termination in the glans. And sometimes 4. the urethra being excoriated by the continual flux of acrimonious matter, nature too hasty in generating new flesh, substitutes a loose, spongy flesh, which growing every day larger and harder, forms caruncles, which obstruct the urinary passages, so as at length to hinder the

exclusion of the urine; and these caruncles also emit a certain ichor, which proceeds from the little ulcers adherent thereto, and greatly hinder the cure, occasioning a tedious disorder more to be apprehended than death itself. Moreover, 5. it often happens that the matter which should have been discharged by the gonorrhœa is thrown upon the scrotum, either by violent exercise, or the use of astringents, and causes a violent pain and inflammation, with a considerable swelling sometimes of one, and sometimes of both the testicles; the gonorrhœa in the mean time proceeding slowly, but the heat of urine remaining equally troublesome. These are the common symptoms of this disease in this state of it.

11. But when, by the continuance of the disease in those parts, the virulence is communicated to, and by degrees corrupts the blood, or when the juices putrefy from the retention of the virulent matter in the body by the improper use of astringents, the true pox arises; in which 1. swellings, or buboes, often appear in the groin, and constitute the first degree thereof. 2. Then violent pains seize the head, and the limbs between the joints, as the shoulders, arms and legs, which attack by intervals and keep no stated order, except that they generally come in the night as soon as the patient is warm in bed, and do not cease till towards morning. 3. Scabs also and scurf of a yellow colour, like a honey-comb, appear in several parts of the body, by which mark they may be distinguished from all others; and sometimes they are very broad, and resemble the leprosy, as it is described in the writings of physicians: and the more this scurf spreads, the easier the patient becomes. All the symptoms increase by degrees, and particularly the pain, which at length becomes so intolerable, that the patient cannot lie in bed, but is forced to walk about his chamber in a restless manner till morning. Moreover, 4. from the severity of the pain, hard nodes, called exostoses, grow upon different parts of the skull, and the bones of the legs and arms, which resemble the bony excrescences upon the legs of horses, usually termed the spavin: and 5. these bones, from the continual pain and inflammation, do at length grow carious, and putrefy. 6. Phagedenic ulcers likewise break out in different parts of the body, which generally begin first in the throat, and by degrees spread through the palate to the cartilage of the nose, which they soon consume; so that the nose for want of its support falls flat. 7. The ulcers and pain increasing every day, the patient, wasted away partly by the continued pain, and partly by the ulcers and corruption, leads a life far worse than any kind of death, through the stench, corruption, and shame attending it, till, at length, his limbs rot away one after another, and the mangled, breathless carcase, being odious to the living, is consigned to the grave.

12. As to what is termed the intrinsic and essential nature of this disease, I am as ignorant of it, except as it appears from the symptoms just enumerated, as of the essence of any plant or animal. But be this as it will, I am persuaded, that the humour occasioning this disease is of a very inflammatory nature, and ought to be evacuated by such means as experience shews to be most effectual, no immediate specific being yet discovered, whereby it may be cured without any preceding evacuations. For neither mercury, nor the drying woods, are to be accounted specifics, unless it can be proved by examples, that mercury has sometimes cured the venereal disease without a salivation, or a decoction of the woods without a sweat.* Now having learnt by experience, that the common sudorific has been as effectual here, as decoction of the woods, so I doubt not, that if a remedy could be found, either in the vegetable or animal kingdom, of equal efficacy with mercury in raising a salivation, it would have the same effect in curing the venereal disease. But as this disease, when it is only a gonorrhœa, differs considerably from that which hath infected the whole mass of blood, and justly deserves to be entitled the lues venerea, so it requires a different kind of evacuation from that which is necessary in a confirmed pox.

13. With respect therefore to a gonorrhœa, of which we first treat, the whole of the cure, as far as we have yet experienced, turns upon purging medicines; by means whereof the peccant matter is either evacuated, or the natural juices of the body drained off, which would otherwise feed the disease. But though both reason and experience intimate that it may be cured by any cathartic, provided it be frequently repeated, and continued for a considerable time; yet such strong purgatives, as powerfully evacuate bilious, but especially watery humours, seem best for this purpose; and therefore I have sometimes recovered persons in low circumstances by jalap root only. But as the disease is attended with a manifest inflammation, and the purgatives to be exhibited in order to the cure are likewise hot, a cooling diet must be directed throughout the whole course.

14. For this reason I generally prescribe as follow :

Take of the greater pil. cochiaë, three drams; extract of ruddius, one dram; rosin of jalap, and diagrydium, of each half a dram; opobalsamum, enough to make the whole into a mass, each dram whereof is to be made into six pills.

* Modern experience has rendered it certain that a salivation is by no means necessary to produce the salutary effects of mercury in this, as well as in many other diseases.

Four of these pills are to be taken every morning at four or five o'clock, (that the patient may sleep upon them) for twelve or fourteen days running, or longer, namely, till the heat of urine, and the yellow colour of the running be greatly abated, after which I esteem it sufficient to purge every other day for another fortnight; and then the pills are to be taken only twice a week, till the running ceases, which commonly continues several days afterwards. For though it be ordinarily affirmed, that after the heat of urine, and the yellow colour of the running are gone off, the ichor which appears, especially in the morning, upon the top of the penis, from which a drop or two may be squeezed with the finger, proceeds only from the weakness and laxity of the parts, occasioned by the long continuance of the contagious matter therein; yet the patient finds to his great prejudice, that this is the remains of this disease not thoroughly overcome; for though it be conquered in some measure, yet upon any slight occasion, as by excessive drinking, any violent exercise, or the like, it begins again, and the gonorrhœa returns, that is, if the purging be discontinued before the disease is perfectly cured.

15. If the gonorrhœa does not yield to this course of purging, it will be proper between whiles (especially in such as are not easily purged) to give some stronger purge instead of the pills; as the following potion, which having been taken only once, hath proved more effectual sometimes in stopping a gonorrhœa, than the frequent repetition of lenient cathartics.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them in a sufficient quantity of water, to leave three ounces of the strained liquor; in which dissolve manna and solutive syrup of roses, of each an ounce; syrup of buckthorn, and electuary of the juice of roses, of each two drams; mix them together.

Or when the cure goes on slowly, exhibit eight grains of turpeth mineral, only twice or thrice, at proper intervals, lest it occasion a spitting; and this is the most powerful remedy to conquer an obstinate gonorrhœa. Or the following pills may be given twice a week;

Take of pil. ex duobus, half a dram; mercurius dulcis, one scruple; opobalsamum, enough to make them into four pills, to be taken betimes in the morning.

16. But sometimes the patient hath such an aversion to repeated purging, that he cannot even endure the sight or smell of the medicines. And sometimes a peculiarity of constitution obtains, so that the strongest purgatives avail not, whence a suffi-

cient evacuation of the peccant matter cannot be made ; and whilst we solicitously, but fruitlessly, endeavour to cure the disease by this means, it gains ground, and becomes a true pox in such habits. In these cases, therefore, recourse is to be had to glysters, which may answer both indications ; 1. by evacuating the humour, 2. making a revulsion from the part affected. Besides, this method is sometimes more expeditious than the former, but in my opinion it is not equally safe ; for though the former be more tedious, as requiring longer time, there is notwithstanding less danger of leaving a part of the contagious matter in the bowels, to cause fresh disturbance afterwards ; but this inconvenience may easily be prevented by exhibiting cathartics on the intermediate days, in order to assist the glysters.

17. Wherefore I proceed in this manner : I give the above-mentioned pills, or others of a like kind, two or three mornings successively, and then I order the following glyster to be injected twice a day, viz. in the morning, and at five in the afternoon, till the symptoms go off ; except that once or twice a week I exhibit a cathartic, omitting the glyster that day :

Take of the electuary of the juice of roses, six drams ; Venice turpentine, dissolved in the yolk of an egg, half an ounce : dissolve them in a pint of barley water, and to the strained liquor add two ounces of the universal electuary : mix them together for a glyster.

Every evening at bed-time I give twenty-five drops of opobalsamum, or balsam of Mecha, dropt upon a piece of fine sugar ; this medicine being a kind of pure liquid turpentine, has the same virtues, and does great service in ulcers of the pudenda ; but where this cannot be had, the quantity of a hazel nut of Cyprus turpentine may be taken in the same manner instead of it.

18. Whatever method of cure be used, the patient must, during the process, refrain from salt and high-seasoned meats, and all others of difficult digestion ; as beef, pork, fish, cheese, roots, herbs, and fruit ; instead of which I substitute mutton, veal, rabbit, chicken, and other light food ; and order him to eat very sparingly of these, that is, no more than is sufficient to support the strength. I forbid wine of all kinds, and all spirituous, or acescent liquors, prescribing for his common drink, milk boiled with thrice the quantity of water ; only at dinner and supper he may be allowed a little small beer. To abate the inflammation, and heat of urine, I direct some cooling emulsion, prepared in the following manner, to be drank on the intermediate days of purging :

Take of the seeds of melons and pompions, each half an ounce ; seeds of white poppies, two drams ; eight blanched sweet almonds ; bruise them together in a marble mortar, pouring upon them by degrees a pint and half of barley water ; and lastly, sweeten the strained liquor with a sufficient quantity of fine sugar.

19. In a very sanguine constitution, and when the disease is obstinate, after having spent a month or thereabouts in a course of purging, I generally advise eight or nine ounces of blood to be taken away from the arm ; but I am against bleeding sooner, lest the disease should be more confirmed thereby. I do not depend much upon injections into the urethra, because they ordinarily do much more mischief than service, either by their pungent acrimony, or stypticity : however, towards the declension, a small quantity of rose water may be injected.

20. I do not know a better method than this of curing a gonorrhœa, especially in such as are easily purged ; but in persons of a contrary disposition, though it never fails, yet it requires a long time to complete the cure. In such persons therefore bleeding is to be repeated, and the purges must be made stronger, repeated oftener, and continued a longer time ; or glysters may be injected as abovementioned ; purging being the principal remedy here. For it may be truly affirmed, with respect to this disease at least, that whoever cleanses well makes the best cure ; provided no mineral waters be used, which by their astringent and too healing virtue shut up the disease in the habit, which should have been carried off, and so render it more confirmed, as I have found by experience. Hence I have frequently observed swellings of the scrotum succeed from drinking them ; at the beginning, or height of the disease, and more dangerous symptoms, as caruncles, when they were drunk towards the decline ; and this I positively assert, notwithstanding mineral waters are ordinarily and frequently directed in the present practice in this case.

21. I am also well aware how much some practitioners boast of curing this disease in a shorter time by remedies which bear a great name ; but I have found, by repeated observation, that the matter which should have been expelled, being detained in the body by astringents, has proved highly detrimental to the patient, by frequently running into the blood, and at length causing a pox. Nor is the decoction of the woods more effectual, though it is safer ; for under a pretence of exhibiting specifics, the whole body, but especially the parts affected, already over heated, are still more inflamed ; and sometimes, as I have already observed, I have known the gonorrhœa return, which vanished a little before.

22. But it must be observed, that if the nut be totally covered by the prepuce, and the lips of it so swelled, hard, and callous, from the inflammation, that it can by no means be slipped back, it is a fruitless endeavour to attempt the cure of the gonorrhœa by purging, though the strongest cathartics be given, and repeated every day with this view ; unless means be used at the same time to reduce the part affected to its natural state, by removing the hardness and swelling, which continually increase the gonorrhœa. For this purpose I direct the following fomentation :

Take of the roots of marshmallows and white lilies, each an ounce and half : the leaves of mallows, mullein, elder and henbane, and the flower of camomile and melilot, of each one handful ; the seeds of flax and fenugreek, each half an ounce ; boil them together in a sufficient quantity of water, for a fomentation, to be applied to the part affected for half an hour, twice or thrice a day.

After fomenting I order the part affected to be anointed with fresh linseed oil, and then apply the mucilage plaster spread on leather to the swelled lips of the prepuce. But if the ulcer in the lips of the prepuce, or glans, by its constitution and callosity, hinders the prepuce from slipping back with ease, besides the fomentation above mentioned, I prescribe the following liniment :

Take of the ointment basilicon, six drams ; the ointment of tobacco, two drams ; red precipitate (washed in rose-water, and levigated) half a dram ; mix them together for a liniment ; to be applied, upon lint, to the ulcers, after using the fomentation above directed.

23. But if either from stopping the gonorrhœa too soon, violent exercise, or any other cause, the scrotum be greatly swelled, (which is now the seat of the disease) I apply the above-mentioned fomentation twice a day to the part affected ; and if the pain and swelling do not abate, I cover the part with the common cataplasm, prepared of oxycrate and bean meal. While these external applications are used, I endeavour to promote the cure by cathartics and coolers, along with the diet abovementioned ; and I scruple not to take away nine or ten ounces of blood from the arm of the same side with the testicle affected, at any time of the disease, if the largeness of the swelling and the violence of the pain require it : and here we finish our observations on a gonorrhœa.

24. But if the distemper be got to such a height, as to be justly entitled the venereal disease, or a confirmed pox, the procedure must be different from that above delivered; for the cure being more difficult, demands more powerful remedies; in reality not an instance can be produced, so far as I know, where this disease hath been cured unless by a salivation with mercury; notwithstanding what has been hastily advanced by some learned, as well as some illiterate persons, to the contrary. Since therefore a salivation answers every purpose here, I need do nothing more than set down what I have learnt from reason and observation concerning the raising and carrying it on.

25. And, first, I cannot even conjecture what some physicians mean by their frequent cautions about preparing the body duly by cathartics, digestive medicines, bathing, and the like; not to mention bleeding, which some esteem the principal thing. For if we speak frankly, the whole of the question is reducible to this, viz. that since a salivation must be procured by a poison (for we have not hitherto discovered a safe and innocent medicine productive of this effect, and the disease cannot be cured without it) whether it is better to make use of it, when the body is in full strength and spirits, and consequently more able to bear it, or after it has been debilitated by bleeding and low diet? Doubtless, every judicious person would think it better to do nothing at all, than to do mischief by such unseasonable attempts. Besides, it is manifest from experience, that a salivation is better borne by those who have not been debilitated by evacuations, or any other way, than by such as have been weakened before entering upon the course.

26. Omitting therefore this mischievous preparation, as soon as I am called, I prescribe the following ointment:

Take of hog's lard, two ounces; quicksilver, an ounce; mix them together.

I add no sort of hot oil, or any thing else to it; because the ointment is made worse by all such additions as check its operation, and no better if they no way improve it; and perhaps those ingredients which are added under the title of correctors, do the same here (if they act at all) as experience shews such things ordinarily do, when they are joined with cathartics, viz. occasion gripings, and render their operation more difficult, from the ensuing struggle between the antidote and the purgative, all the virtue of which latter consists in being opposite to nature. I therefore order the patient to anoint his arms, thighs, and legs, with his own hand, with a third part of the above-mentioned ointment, for three nights running, with care not to touch his arm pits and groin; and the abdomen must be well defended

from the ointment, by wrapping a piece of flannel around it, and fastening it behind. After the third unction the gums generally swell, and the salivation rises; but if it does not appear in three days after the last unction, eight grains of turpeth mineral may be given in a little conserve of roses, and after every evacuation, either upwards or downwards, let him take a draught of warm posset drink. When the salivation begins, the physician must attend with great exactness to the degree thereof, lest by inconsiderately using too many medicines, it be raised so high as to endanger the life of the patient. When it has got to a proper height, in which state the spitting generally amounts to two quarts in the space of twenty-four hours; or if the symptoms go off, though the spitting be not so much, which generally happens in four days after it comes to the height, it will be necessary to change his linen and his sheets, for others that have been worn some time since they were washed; because those he lies in, being fouled with the ointment, are apt to increase and keep up the salivation beyond the due time. But if the salivation abates before the symptoms vanish, it must be heightened by exhibiting a scruple of *mercurius dulcis* at a time, occasionally.*

27. Sometimes it happens, especially in such as are easily moved by purgatives, after the first or second unction, (*viz.* as soon as the mercury begins to affect the blood) that nature endeavours to throw it off by the intestines, whence not only mucous stools and gripings proceed, as in a dysentery, but the cure of the disease is hindered thereby, which is used to yield only to salivation. In this case mercury must be entirely refrained, both externally and internally, till these symptoms are quite gone off; and the purging likewise, which generally happens before the salivation rises well, must be stopped by liquid laudanum, increasing the dose, and repeating it according to the urgency of the symptoms; or a dram and half of *diascordium* must be given between whiles, occasionally. Upon the stoppage of the looseness, the salivation, which scarce appeared before, usually goes on in a proper manner.

28. When the patient appears to be recovering in all other respects, only his mouth continuing ulcerated, (which is the genuine effect of a salivation) the spitting, which abates now every day, must not be checked by purging, or any other method: for

* It is strange that so much clamour should have been excited against the use of ten grains of calomel and ten of julap, as a purge, in the yellow fever which prevailed in Philadelphia in the year 1793, when such a record existed in the works of Dr. Sydenham, of its safety in double that dose, and without being mixed with any thing to quicken its passage through the bowels.

possibly, after the pain is gone off, and the ulcers are dried up, a part of the morbid matter may remain in the habit, and occasion fresh disturbance, unless that moderate spitting be permitted, which will cease as soon as the patient, after his recovery, hath been a few times in the air. For this reason I esteem it dangerous to carry off the remains of the salivation, which is just upon ceasing spontaneously, either by purging, or by drying it up with a decoction of the woods; which methods, though commonly used under pretence of expelling the mercury out of the body, or correcting its malignity, do, without doubt, occasion the frequent relapses that happen in those unfortunate persons, who, after all their pains and expence, earnestly long for health, and had certainly obtained it, if the salivation had been suffered to terminate spontaneously. It would therefore be more adviseable to promote it, by exhibiting *mercurius dulcis* once a week, after the patient is entirely recovered, and goes abroad, (which I have sometimes ordered to be done for some months) than to check it too soon.

29. But though I do not like purging at the declension of the salivation, for the above-mentioned reasons, it may, nevertheless, be indispensably necessary at the height; that is, when it hath been so far raised, by wrong management, as to endanger life, in which case it is not only safe, but requisite to lower it by a purge, to such a degree as suits the strength of the patient, after which it is to be left to itself.*

30. If it be demanded, whether we should be satisfied with salivation only, without having recourse to cathartics, or any other medicines, which are usually administered after it is over, I reply, that besides what has been just mentioned, (which reason and experience confirm) I would fain know how it comes to be more necessary to purge after a salivation, than to salivate after purging; since purgatives, especially scammony, and such acrid cathartics, leave some remains of malignity behind them in the body, which notwithstanding we leave to nature, whereby at length they are overcome; namely, upon the patient's returning to his usual manner of living, exercise, and the free use of the air. Again, I should be glad to know why we try to expel the

* The experience of physicians in all countries, has proved the difficulty of stopping a salivation. The application of cold water to the mouth and throat internally, and to the neck and cheeks externally has been found both safe and useful. Dr. Betton informed me that he once saw it suddenly checked in some sailors in a voyage to the East Indies, by their being called out of their beds to assist in the management of the ship during a storm, in which their whole bodies were wetted, and that for a considerable time.

remains of the mercury by cathartics, whilst we not only neglect, but check the salivation, which is the genuine and almost the sole method whereby nature ordinarily does and should effect it? But such errors are to be ascribed to our limited capacity, which hinders our coming at the truth, that lies too far out of our reach, so that we take up with specious appearances instead of realities; and afterwards strengthen our groundless prejudices to that degree by conversation, that at length we are for imposing our idle notions for demonstrations; which, in my opinion, is manifest in the instance under consideration.

31. But though most persons may be cured by the abovementioned method, it must, however, be carefully noted, that some are possessed of such an idiosyncrasy, or peculiarity of constitution, both in respect of salivation and purging, (such as are not easily moved by cathartics, being likewise hard to salivate) that it will scarce cause an ulceration of the gums, much less raise a degree of sputation adequate to the disease. In these cases, therefore, the physician must, above all things, beware of obstinately and unseasonably endeavouring to raise a salivation, whilst nature resists, and will by no means bear such an evacuation; for want of understanding which matter rightly, some have destroyed abundance of persons. For in such constitutions the persisting obstinately in the use either of external or internal medicines for this purpose, instead of answering the end, occasions gripings and bloody stools; nature endeavouring to carry off the poison of the mercury this way; or else a pain in the stomach, sickness, cold sweats, and other terrifying symptoms ensue, so that the patient is brought to death's door, and perhaps killed thereby.

32. In such cases, therefore, though the physician may repeat the unction, and the turpeth mineral again, when the salivation does not rise in four or five days after the last unction, (interposing some days between each unction) yet it greatly behoves him not to be so resolutely bent to raise a salivation, as to continue to force it in spite of nature. In my opinion therefore this method is to be followed; as soon as the sickness at the stomach, or gripings succeed, medicines must be immediately refrained, till these symptoms are quite gone off; for by the frequent repetition of many powerful medicines to raise a flux, when nature opposes it, a dysentery will certainly follow the gripings, and the sickness at stomach terminate in death.* Whereas, on the contrary, by going on gently, and taking time, exhibiting, for instance, a scruple of mercurius duleis once or twice a week, alone, or with a dram of diascordium, in case of a tendency to a looseness, a cure will

* I have not found these disagreeable effects from an unsuccessful attempt to excite a salivation.

be obtained. For though the salivation does never rise to the height, yet an extraordinary sputation will be occasioned, accompanied with a fetid smell, which is the concomitant of a genuine salivation: whence it is manifest that the blood and juices have undergone that peculiar putrefaction, or alteration, whatever it be, which either causes or proceeds from a salivation. By this method all the symptoms of the disease will be conquered, provided it be continued a proper time.

33. It must however be observed, that though a salivation excels every other remedy in curing a confirmed pox, yet it is not able to conquer a gonorrhœa, when joined therewith, for this disorder continues after the former is perfectly cured; so that from hence it is reasonable to conclude, that mercury is possessed of no specific virtue immediately curative of the pox, though perhaps it may be entitled a specific mediately, inasmuch as it cures the disease by the help of a salivation, which however is almost as absurd, as to term a lancet a specific for the pleurisy.

34. But to resume our subject; when the pox and a gonorrhœa meet in the same person, the cure of the latter is to be attempted either before or after the salivation, though, in my opinion, it is effected with more safety and ease after the flux is over; for being joined with the pox, it yields with greater difficulty, but having been in some measure conquered by the preceding salivation, it is ordinarily cured with less trouble: purging, however, must absolutely be refrained as long as the salivation continues in the smallest degree. Upon this account, therefore, the cure is more safely conducted, by giving a dose of turpeth mineral, once or twice a week, than by any other purgatives; as it will in some measure promote the flux, whilst the matter productive of the gonorrhœa will, in the mean time, be gradually carried off.

35. It must likewise be noted, that if there be a tumour, usually termed an exostosis, upon some bone, which has been of so long standing as to render it carious, it will be in vain to attempt the cure of the disease by a salivation, or any other method, unless care be also had to remedy this accident. And therefore the bone must be laid bare by applying a caustic to it, and its exfoliation promoted by medicines adapted to this end.

36. If the ulceration of the mouth, which generally accompanies a salivation, be so exceeding painful, or the mouth so excoriated as to bleed continually, it must be often gargarized with rose water, milk and water, or a decoction of barley, marshmallow roots, and quince seeds. This is the only symptom I know of that is worth notice in a salivation, when it is conducted in a proper manner; and in reality, if the pain and ulceration of the mouth could be any way prevented, this disease would be as easily cured as some others are, of which much less notice is taken.

37. As to the diet and other regimen, I conceive they ought to be the same in a salivation, at least till it declines, with those which are directed in a course of purging. For as when a person hath taken a purge, he need only keep himself warm in his room, and eat sparingly of easily digestible food ; so I can see no reason why a person in a salivation should be kept constantly in bed, and forbid a slender diet, which may strengthen nature, struggling with the poison. For numbers have been destroyed, by their strength and spirits being totally exhausted, by sweating, purging, and needless abstinence, besides the mischief caused by the mercury : and frequently also, after the disease is gone off, the patient, not having sufficient spirits left to recover, sinks through debility ; or if he escapes, it is with so much difficulty and pain, that life is not worth the purchase.

38. And here it is easy to refute the objection, why some that undergo so much, in that state of the disease which we have just mentioned, are obliged to go to France to be cured. The reason of this I take to be, that in such persons the constitution is broken, and their strength exhausted, so that our thick and moist air hinders their recovery ; whereas the air of the French climate, which is more healthy and clear, is suited to restore their strength and spirits ; and not that the physicians of that nation, however learned they may be, have a better method of curing this disease, than those of our own country. But to return to the regimen.

39. I am therefore of opinion, and experience confirms it, that besides water gruel, panada, posset drink, warm small beer, &c. veal and chicken broth, and the like, may and ought to be allowed in a moderate quantity ; and that as soon as the swelling of the gums is so much abated that the teeth can be closed, rabbits, pullets, lamb, and such light meats, may be permitted sparingly, and the patient likewise may sit by the fire, or lie in bed, which he likes best ; for as the cure of this disease is to be effected by a salivation, and not by sweating, I see no reason for over-heating the patient unnecessarily.

40. This method is not only more expeditious, as not requiring so many days to be fruitlessly spent in preparing the body before salivation, nor such frequent purgation, nor the common decoctions, after the salivation is over ; but I am well assured it is also easier and safer, and more preventive of a relapse ; which any person, who has followed the other method, will experience upon making trial of this. At least it has succeeded with me in several patients, some whereof had already gone through more than one salivation, ineffectually, having always relapsed from the causes above enumerated.

41. To conclude. I need not use many words, worthy Sir, to gain your esteem, who have long been convinced of my probity, and vouchsafed to advance my reputation. I will therefore

say nothing more of this disease, for it never was or will be a pleasure to me to perplex matters by a prolix and intricate stile. Be pleased then to accept this short performance, how inconsiderable soever it be, either in value or bulk ; because I wrote it principally for the public good, and to testify my regard for you: which, great as it is, is yet less than you merit, both from me and all those who are no strangers to your great learning, affability, candour, and other laudable virtues. And indeed I do not flatter you, when I assure you, that since I was first honoured with your friendship, I have always set the highest value on it. For amongst the observations I have made during the short period of my life, this is well worth notice, and what I would likewise particularly recommend to my son, namely, that an acquaintance with men of eminent probity and virtue, hath always been of service to me ; whereas, contrariwise, an intercourse with vicious men, (if such a friendship, as is not founded on virtue, does not rather deserve to be stiled a combination or conspiracy) though they never injured me by their words or looks, hath at last, by I know not what means, sometimes proved prejudicial to me or my affairs. Adieu, dear Sir ; continue your friendship to

Your most obedient servant,

THOMAS SYDENHAM.

AN EPISTLE OF DR. WILLIAM COLE TO DR. SYDENHAM.

WORTHY SIR,

YOU will perhaps wonder what impertinent person it is that breaks in upon your serious studies ; but I hope you will pardon me, when I assure you, that it is chiefly to express my due acknowledgment for the singular advantages I have received from your elaborate essays on acute diseases. For you have specified all the constitutions of years and of the air, of which you undertook to treat, with great accuracy, and in a quite new method, and have intimated such genuine and very obvious indications, for the cure of all the diseases happening therein, and illustrated the work with such excellent remarks, that we may reasonably presume, that so much sagacity and indefatigable application will eternally oblige both the physicians, and those who shall be committed to their care.

But though you have wrote so accurately of those things you designed to treat, that I can scarce forbear praising you for every particular, yet I chiefly thank you for your method of treating the small pox, by which that hitherto fatal disease may be readily cured, provided it be not attended with malignity, or some unusual symptom, or obstructed by nurses ; a set of people, who frequently injure the health of mankind in a great degree, occasioning irregular symptoms by their hot regimen and medicines, and destroying abundance of persons before their time. You ought, therefore, learned Sir, to be esteemed the preserver of mankind, and a sure guide to the sick in the extremest danger, conducting them to health, if they will but follow your directions.

For my part, though I somewhat distrusted my judgment, yet I have long been of opinion that the eruption of the pustules in the small pox is not the essential disease, but the crisis of the fever ; and, accordingly, that, like other crisis, it required a regimen, in which, by the unanimous consent of physicians, the whole business is to be left to nature, provided all things go on in a proper manner ; which generally happens in this disease, unless the blood be immoderately agitated in the beginning. But, after having perused your excellent treatise, I found that those fears which had so long possessed me and others were groundless, and I ventured to treat my patients according to your method, (though sometimes not only the common people, but physicians condemned it) which proved so successful with those that complied with it, that, whatever others think, I shall always esteem myself happy in the possession of so valuable a treasure.

And when I was called to persons afflicted with the confluent small pox, which, however, seldom happened, I scrupled not, upon your authority, to have recourse to opiates, though they seemed to be expiring, and have had great success. And, in reality, you seemed to have given us so complete a treatise on this disease, that I should easily have imagined that the subject was exhausted, had I not lately been informed by my learned and intimate friend Mr. Kendrick, who highly extols your civility, that you had some new observations on this distemper, which I cannot but think must needs be eminently useful in practice, because they are the fruits of your labour ; and that, unless you communicate them to the public, you will injure mankind and your own character likewise. And therefore if the intreaty of a person unknown to you be of any weight, I beg you would publish them. But I must not stop here : for, having learnt from the same gentleman, that you have some curious observations on hysteric diseases, (which as they have exercised and fatigued the minds of the ablest physicians of all ages, so, alas ! do they too often withstand the methods of cure delivered, and demon-

strate how unsafe it is to trust to our reason in philosophical matters, except in such things as fall under the notice and testimony of the senses.) You must give me leave to say that you will, doubtless, greatly oblige both the present age and posterity, by publishing your sentiments of them. At least, I beg you will not be offended at the request which I, though unknown to you, have ventured to make, both for my own and the public good, and that you will reckon amongst the number of those who are most devoted to you,

Your obedient servant,

WILLIAM COLE.

Worcester, }
Nov. 17, 1681. }

AN EPISTLE FROM DR. THOMAS SYDENHAM TO DR. WM. COLE,
TREATING OF THE SMALL POX AND HYSTERIC DISEASES.

WORTHY SIR,

WERE I to gratify self-love so far as to appropriate to myself the praises which I have no right to, it would be difficult for me not to betray some pride, upon being so highly commended by so great a man, who, though an utter stranger to me, is known to the learned world by his excellent writings. But your having honoured me thus far, though undeserving it, I ascribe to your civility; for the worthiest men are so formed by nature, that they are not only kind to such as err in trivial matters, but are always ready to give a proof of their candour, by commending those who come far short of perfection. And it is with gratitude I own that you have given me a remarkable instance of this, by approving my slender endeavours, which were intended to benefit mankind.

2. You have here what you requested, namely, my farther observations on the small pox, and my new treatise of the hysteric passion. I begin with the former, that what should seem to have been wanting in it hitherto may be supplied by such remarks as are the result of a longer experience. But I have undertaken to treat of hysteric diseases, because, except fevers, they happen most frequently, and likewise because I conceive my trivial observations may be of some advantage to practice. But I own I had still another reason for prosecuting these studies, besides

the hope of serving the public, which was to employ my leisure hours well, and spend the long winter evenings agreeably and usefully, being prevented by age now from going abroad to pick up companions. But whatever it was that first induced me, I do not find myself so fit for the undertaking, as I hoped to be; for that continued series of thoughts which requires a fixt attention, has for many years past been prejudicial to my gouty constitution, and is more so now old age approaches. Yet as I have received your obliging letter, I will, in answer to it, treat of these matters, though with more brevity than I at first designed.

3. Before I begin to treat of the small pox, I must inform you, that the same sort of intermitting fevers, which, as we have said in another place, arose first in 1677, still prevails, viz. in 1681, the time of my writing this epistle. These fevers, throughout those years in which they reigned, like all epidemics, chiefly raged in those seasons that conspired most with their nature; but upon the approach of another season yielded to such epidemics, as that season principally favoured. For instance, upon the coming in of winter they always gave way to the cough and peripneumonic fevers thereon depending, and likewise to the small pox; but upon the return of the spring they re-appeared. So in the year 1680, when these intermittents had prevailed universally during the autumn, the small pox succeeded them in the winter and spread much; but in 1681, the intermittents returned, though they did not spread so epidemically, the violence being abated, so that the small pox appeared along with them in a few places. But at the beginning of summer the small pox increased every day, and at length became epidemic, and killed abundance of persons.

4. What reason seemed to intimate formerly, appeared manifest to me this year, 1681, namely, that it is wrong to confine the patient constantly in bed, before the total eruption of the pustules; for the spring and summer having been the driest seasons that any person living could remember, for the grass was burnt up in most places, the blood was by this means deprived of the greatest part of the humidity, which the air otherwise usually communicated to it; whence the then reigning small pox was accompanied with a more considerable inflammation than ordinary, and the other symptoms thence arising were more violent.* And this I conceive was the cause that purple spots frequently

* Warm and dry seasons generally impart an inflammatory character to fevers. This is taken notice of by Dr. Hilary in his treatise upon the diseases of Barbadoes. It appeared in a remarkable degree in the yellow fever which followed the warm and dry summer of the year 1793 in Philadelphia.

preceded the total eruption of the pustules, and that the violent inflammation which expelled them, by dissolving the texture of the blood, suddenly destroyed the patient before the due expulsion of the morbid matter. And the disease proved so much the more destructive, because the eruptions so feadily ran together, for the reason above intimated; for the intemperature of the air, now, did the same mischief spontaneously which ignorant practitioners ordinarily occasion, by using a hot regimen and cardiacs, at the beginning of the distemper. For it is a remark well worth noting, and the result of the most accurate observation, that the small pox is least dangerous, when the eruptions are few, and most so, when they are numerous; and accordingly the fewer, or more numerous they are, the patient lives or dies. It must, however, be owned, that the bloody urine and purple spots, which so certainly prognosticate death, do sometimes happen, when there is little sign of the appearance of the small pox, or only a very few eruptions coming out; but these, as they generally accompanied the confluent small pox, so they sometimes came so early, as to destroy the patient before the total eruption of the pustules; as we observed above.

5. I conceive it easy to account for the patient's being more or less endangered, in proportion to the paucity or number of the eruptions; for as every pustule is at first a phlegmon, though of a very small size, and soon impostsuimates, so the secondary fever, which depends on the matter now making, is more or less violent at the height of the disease according to the quantity of matter to be suppured, which is usually completed in the mildest sort of the confluent small pox on the eleventh day, in the middle sort on the fourteenth, and in the worst on the seventeenth day. For it must be observed, that as the confluent kind exceeds the distinct in point of danger, as much as it is itself exceeded by the plague, so likewise the above-mentioned three sorts of the confluent small pox are comparatively more dangerous the one than the other; which respects also the sex or age of the patient, it being generally known, that persons in the prime of life are in greater danger in this disease, than women or children under fourteen.—But this by way of digression.

6. Nor will it seem strange that the danger should be so great from a large number of eruptions, if it be considered that a phlegmon (commonly called a boil) in the arm or any other part, will occasion a fever whilst it suppurates; the blood being inflamed by the purulent particles which are received into the mass from the veins according to the laws of circulation, and thus giving rise to the fever. But the physician has more reason to foretel death, on one of the above-mentioned days, when the face, at the beginning of the disease, appears totally covered with small eruptions, resembling the filings of steel, on account of the ex-

treme violence of the succeeding fever, which necessarily rages in proportion to the quantity of matter thrown out of those innumerable imposthumes into the blood. And it is easy to foresee the destruction of the patient some days before it happens, though he thinks himself in a fair way, and is reputed to be so by the attendants, who are unacquainted with the nature and course of this disease.

7. Hence, therefore, if the patient be not otherwise endangered than from the abundance of eruptions (setting aside the bloody urine and purple spots for the present,) I consider well whence this proceeds, and if it can be done with safety, use my best endeavours to repress them, which in reality is the principal thing to be effected, and the way to relieve the patient; every thing being very hazardous, when this kind of the disease is confirmed: so that if the patient should escape, it is not so much owing to my care, as to a plentiful bleeding at the nose, or some other accidental alteration happening in the course of the disease. Now such an extraordinary eruption of pustules, in my opinion, proceeds from the too sudden assimilation of the variolous matter; which seems chiefly to arise either from the over hot and spirituous constitution of the patient, or from his having raised the fermentation too high by confining himself to his bed too soon, taking hot cardials, or any sort of spirituous liquor, by which means the blood is disposed to receive the impression of the disease more intimately, and nature being greatly disturbed by the vast quantity of the variolous matter, endeavours to change almost all the solids and fluids into pustules.

8. The immoderate assimilation of the variolous matter, however, cannot be more effectually promoted than by the patient's confining himself in bed unseasonably, namely, before the sixth day from the beginning of the illness, or the fourth inclusive from the eruption, when all the pustules are come out, and no more are expected. And though the moderate warmth of the bed, even after this time, does in some measure contribute to bring on the delirium, watching, and other symptoms, yet these are of such a nature, that they readily yield to proper remedies; whilst the imminent danger of death that happens on the eleventh day, from the great abundance of the pustules, cannot be prevented or removed by medicine.

9. The patient therefore is to be diligently admonished by no means to keep his bed in the day-time, till towards the evening of the sixth day, whereby the eruptions will be fewer, and he will be greatly refreshed. But after this time, if the pustules be very numerous, he will scarce be able to leave his bed at all, on account of the pain thence arising, and a greater disposition to fainting upon sitting up; so that having frequently remarked this,

it came into my mind that nature in the customary course of the disease, first pointed out the time when it is necessary to keep the patient always in bed.

10. But in order to confirm this practical rule, which is of so great moment: in lessening the impending danger from the small pox, and in treating of it at the same time, to take our history of it from the beginning to the end, it will be proper to draw up a kind of plan of the whole disease, and make a strict search into its nature and progress; so that we may at length be enabled to ascertain the matter clearly, from the unerring reason of those who make use of the justest observations, and not from opinion founded on the slippery basis of fancy.

11. In the first place, therefore, its essence, so far as we can trace the essence of things, seems to consist in a peculiar inflammation of the blood, in which nature is employed for some days, in the beginning, in preparing and moulding the inflamed particles, for their readier expulsion to the external parts; at which time, the blood being disturbed, a fever must needs be occasioned; for, the agitated particles, hurrying in a tumultuary manner through the vessels, necessarily cause a sickness at the stomach, sharp pains in the head, and all the other symptoms preceding the expulsion, according as they are carried to this or that particular part. But when the eruption is over, the fleshy parts become the seat of the disease; and as nature has no other method of expelling the peccant matter from the blood but by raising a fever, so, likewise, it does not free the fleshy parts from any extraneous body, but by impostsomation. Thus if by accident a thorn, or the like sharp pointed body, be lodged in the flesh, unless it be immediately extracted, the parts around soon impostsomate. Hence it is, that when these particles are lodged in the flesh, they at first occasion very small phlegmons, wherein they lie concealed; which increasing every hour, and becoming more inflamed, at length come to suppuration; when a part of the matter must needs be licked up by the blood which returns by the veins; and if too large a quantity thereof be received into the mass, it is not only productive of a fever, which the debilitated patient is unable to bear, but also taints the whole mass. Nevertheless, this is not the principal evil; for, by the extreme heat of the fever during the last days of the illness, occasioned by the excessive violence of the matter, the salivation, which ought always to accompany the confluent small pox, is stopt too soon, whence immediate death ensues. But if only a small quantity of the purulent matter be received into the blood, the violence of the secondary fever is easily checked by the increasing strength of nature, and the pustules drying away gradually, the patient soon recovers.

12. Now, allowing this to be the genuine and just history of this disease, it is manifest, that failure or success, on either hand, depend upon laying a good or bad foundation of the cure in the beginning. For if these hot and spirituous particles be rendered more so by hot medicines, and especially by a constant confinement in bed, the assimilating virtue, which they already possess in too great a degree, must needs be heightened and increased. And, besides, the blood and other juices being hereby heated, yield more readily to the stronger impression of the particles, whence more eruptions appear than should, and life is, in consequence, unnecessarily endangered. Whereas the contrary, viz. the moderate cooling regimen, and the free use of the air, not only abate the force of the hot tumultuary particles, but likewise thicken and strengthen the juices, so that they are better enabled to resist the morbid species, and support the violence; and hence no greater quantity of variolous matter is prepared, than is natural in this disease.

13. But the only inconvenience arising from a too early confinement in bed, is not from the assimilation of too large a quantity of the morbid matter, and the immoderate exaltation of the ferment of the disease, for the same cause frequently produces bloody urine, and purple spots, especially in summer, and in persons in the vigour of life. In my opinion both these symptoms proceed from the heat and commotion raised in the blood by hot and spirituous particles, by which it is agitated and considerably attenuated, so that it bursts the vessels, causing bloody urine when it forces its way through the kidneys, and purple spots, when it is strained through the extremities of the arteries terminating in the muscles and skin, which resemble so many mortifications in those parts wherein the extravasated blood is coagulated. And though both these symptoms might easily have been prevented in the beginning (when they chiefly happen) by a cooling regimen and diet, yet when they actually appear, whoever attempts to cure them, by confining the patient in bed, and exhibiting cardiacs, will find himself as much in the wrong, as an old woman would be, who to make her pot boil more gently, should make a larger fire underneath.

14. But, to acknowledge the truth upon this occasion (though it should chance to displease the dogmatical, and such as are unacquainted with this matter, and therefore incompetent judges) it is not only unsafe to keep the patient always in bed the first day of the illness, but sometimes necessary to expose him to the open air, viz. if it be the summer season, and he not past the prime of life, or if he has been accustomed to spirituous liquors, and especially if the disease be owing to hard drinking. Now in these cases the too hasty eruption of the pustules cannot in my judgment be sufficiently checked by refraining from bed, and

taking no cardiacs; for the blood, unassisted by these, is so overstocked with hot spirits, of a like kind with the disease, that a sort of violent expulsion of it must necessarily happen; and moreover, such a plentitude of humours will resolve into pustules, that the patient, being quite oppressed by the very copious matter returning into the blood, must inevitably perish at the close of the disease.

15. But the immoderate exaltation of the ferment does frequently increase the force of the variolous matter so much, that the patient sinks at the beginning of the disease, viz. when the morbid matter cannot disentangle itself and come out, by reason of the confused and irregular motion raised in the blood; but bloody urine, and purple spots, succeed instead thereof, and close the catastrophe. And these likewise often happen in the measles and scarlet fever, if the eruption be unseasonably and vigorously promoted.

16. Nor do I find that bleeding, (though it be used early) does so effectually check the overhasty assimilation of the variolous matter, as cooling the blood by the air received in by breathing, especially if the patient be put to bed immediately after the operation, and heated by hot cardiacs; the blood being by this means more disposed to receive the impression of the adventitious heat, than it was before bleeding. And I solemnly affirm, that one of the worst cases I ever met with in the confluent small pox, in which the patient died on the eleventh day, happened in a young woman soon after her recovery from a rheumatism, by the usual method of copious and repeated bleeding. And from this instance I first learned that bleeding did not contribute so much to keep the small pox within its due limits, as I heretofore imagined; though I have frequently observed that repeated purging, before the blood is infected, generally renders the subsequent small pox of a mild and distinct kind.

17. I am well aware that several objections may be made to this opinion of ours, of permitting the patient to sit up in the day time, which may have great weight with the common people, and such as are little skilled in this disease, to whom the lower rank of physicians generally appeal as proper judges in the case, that they may support their ill-grounded reasoning by their authority; such reasonings being in reality better adapted to their capacities, than those that are the result of deliberate consideration in men of deeper penetration. Hence it follows, that as the bulk of mankind can only arrive at a superficial knowledge of things, and but few have ability to go to the bottom, so these pretenders to learning, under their patronage, easily get the better of the more intelligent, who are often exposed to calumny, but bear it patiently, because they have truth, and the

most knowing men, though not the greatest numbers, on their side.

18. It is objected, first, that sitting up in the first stage of the disease hinders the eruptions of the pustules, and, of course, prolongs the sickness, and other symptoms proceeding therefrom; which indeed I own, and daily experience confirms it. But then it must be inquired, which of the two is most dangerous; 1. to give a little check to the variolous matter, and thus prolong the sickness occasioned by keeping back the eruption, or 2. to increase the ferment of the disease, and assimilate so large a quantity of variolous matter, as to endanger the life of the patient, by the secondary fever on the eleventh day. I conceive it will appear, upon duly considering the matter, that very few have died merely because the small pox did not come out sooner or later; unless perhaps a few of those, whose blood being inflamed by excessive heat and motion, circulated with such velocity, as not to allow sufficient time for the morbid matter to be expelled slowly; which is an argument in favour of my opinion.

19. For though we do nothing at all, we need not fear but the variolous matter (how much soever it shifts at the beginning of the illness, and oppresses the various parts it attacks, occasioning violent symptoms, as enormous vomiting, pain in different parts, &c.) will nevertheless, at length, be conquered by nature and driven to the skin; especially as the costiveness of the patient, to this time, promises a certain, though a late eruption of the pustules afterwards. But, contrariwise, how many dangerous symptoms ensue whenever the eruption is unseasonably promoted! It would take up too much time to enumerate them all; and we have already mentioned the chief, which are, 1. the number of eruptions too much augmented, whereto the fever which comes at the close of the disease is proportionable, and accordingly more or less dangerous; 2. the bloody urine and purple spots, both proceeding from the extravasated blood, which being too much attenuated and violently agitated by immoderate heat, runs off wherever it finds a passage; 3. as we have already remarked, a total stoppage of a proper eruption, occasioned by endeavouring too solicitously to promote it, which fails of answering the end.

20. If it be asked why a proper separation of this variolous matter may not be as well promoted at the beginning of the disease, by refreshing the patient with the moderate warmth of the bed, as without it; I ask, by way of reply, whether experience does not testify, that a person in winter, whilst he lies in bed moderately covered, without a fire in the room, is much warmer, than when he sits up therein well clothed? And if the difference here be manifest enough, I next inquire which of the

methods is best adapted to check the immoderate motion of the variolous ferment? Which, in my opinion, the physician ought chiefly to endeavour in the beginning, and according as he deviates more or less from this end, he will assist, or injure the patient.

21. But what has chiefly imposed upon the inattentive in this case, is their having observed a tendency in the patient to spontaneous sweats, which continually flowing whilst he keeps his bed, much more abated the feverish heats, than in those who did not sweat. Let us therefore first consider, why we solicitously endeavour to check the fever, since it is the usual instrument which nature chiefly uses in preparing and expelling all kinds of noxious matter which lurk in the blood; for it is evident, that whilst we carefully promote sweat, in order to lessen the fever, we by the same means force out a crude and indigested humour, like unripe fruit, and by these sweats afterwards cause a high fever; for by this method the serum of the blood, wherewith the blood itself, and those newly-generated hot variolous particles are diluted, is driven out, and in the mean time these particles become more noxious and active, inasmuch as they are now freed from the serum, already exhausted by sweat. In short, the abatement of the fever and other symptoms by sweat, and the too hasty expulsion of the pustules hereby occasioned, have succeeded ill in abundance of persons, who have perished on the eleventh day from this cause.

22. But it is to be observed, that I charge the patient to refrain from bed, only on supposition that the approaching small pox is of the confluent kind; for as to the distinct sort, provided it can be certainly foreseen, the patient need not be kept always in bed, or enjoined to sit up, as the paucity of the eruption prevents all danger either way.

23. However, I do not flatter myself so far as to think, that what I have here delivered should be credited upon the authority of my slender judgment. And in reality, I have ever so lightly esteemed the sentiments of the generality of mankind, that I may always reasonably suspect my own, when they clash with those of others; and I should be upon my guard in this case too, if my reasonings were not unanimously supported by practical observations. For, setting aside these, what appears reasonable to me or any other person, may, perhaps, be nothing more than the shadow of reason, that is, barely opinion. And the more I converse with men, the more I am convinced how dangerous it is, for persons, of the acutest understanding, to rack their brains in making a strict search into any art or science, unless the matter of fact be constituted the judge and test of truth and falsity; for, to use Cicero's words, those who are so highly prepossessed of their abilities, deviate widely from truth,

in mere speculative matters; whereas those who apply their minds only to such things as may be certainly determined by practice, though they should happen to mistake, would soon be set right, by bringing their notions to this touchstone. For instance, in the present case, cannot I certify myself by observations, what method is most productive of a favourable or severe kind of small pox; and so form a judgment thereof, agreeable to the clearness of the fact? And were others to follow this way of reasoning I should be satisfied with their conduct; but it is most unjust to accuse me of advancing falsities, without having once tried whether the method, so frequently mentioned above, of keeping the patient up in the day time, at the beginning of the illness, be advantageous or detrimental. Sure if this humour of defaming those who discover truths, though contrary to generally received opinions, had formerly prevailed, no body would have attempted to make any discoveries that might be useful to mankind. But why should I give myself so much trouble, if a long course of experience did not manifest this method to be much safer than the common one? For I am not so weak and senseless as to seek for reputation, by exploding the opinions of those whom I ought to flatter, if I courted applause. Neither is it to be supposed that I am so abandoned, as to use my authority to compass the destruction of late posterity after my decease, that so I might murder my fellow creatures when I am dead, as well as during my life; which I tremble even to mention.

24. However it be, I have used this method in my own children, my nearest relations, and all those I have attended; and am conscious of no fault, unless it be the yielding sometimes to persons of a contrary opinion, to avoid the imputation of moroseness and obstinacy; for the truth of which I appeal to my intimate acquaintance. But this has not been my sole misfortune; for sometimes, also, notwithstanding that the attendants had contemned my advice and directions throughout the course of the disease, yet they have charged me with the death of the patient, though he perished by the heat which his friends and the nurse promoted, and I exclaimed against so loudly. Hence I could not help thinking, considering the insuperable prepossession of the multitude, that it would be better for me, if I were never to be called again to attend any person in this disease.

25. I own, indeed, that the small pox, in what manner soever it be treated, will sometimes prove highly confluent; whence this disease is never void of danger, though the best method and medicine be used to prevent it. But it is enough for my purpose to assert, authorized by frequent experience, that whoever refrains from bed in the day time at the beginning of the disease, abstains entirely from flesh, and drinks only small liquors, is

abundantly safer than he that confines himself immediately in bed, and takes hot cardiacs. For this method, as above mentioned, will generally prevent too large a crop of eruptions, and consequently the excessive effervescence of the secondary fever, which not only proves destructive of itself, but by thickening the saliva too soon, endangers the patient in the declension of the disease. Moreover this method is preventive of the purple spots and bloody urine; both which symptoms seize at the beginning of the disease, and often before any sign of the eruption appears; which ordinarily happens, also, in the measles, scarlet fever, and other acute diseases, proceeding from a violent inflammation. Not to mention the singular refreshment the patient finds from the admission of fresh air, every time he is taken out of his warm bed: which all those that I was suffered to treat in this manner openly declared, and were very thankful for having, as it were, received new life and spirits from the breathing of a cooler air.

26. Hence I have been induced to reflect, how much more frequently we are deceived, by the specious appearance of reason, than by sense, of which we have the surest knowledge; whence it should seem, that more regard is to be had to the appetites and longings of the patient, if they be not very irregular, or immediately destructive, than is due to the more precarious and fallacious rules of the healing art. To exemplify this: a person in a burning fever earnestly desires to drink freely of some small liquor to refresh him; but the rules of art, which are built upon some hypothesis, having a different design in view, thwart the appetite of the patient, and, instead thereof, order a cordial. In the mean time the patient, not being suffered to drink small liquors, nauseates all kind of aliment; but art, especially that which is professed by the patient's friends and attendants, earnestly requires he should eat. Another, after a long illness from the same cause, begs hard for some uncommon, and perhaps pernicious eatable; and here again, impertinent art thwarts the inclination of the patient, and threatens him with death if he disobeys: unless, perhaps, the artist thoroughly understands this excellent aphorism of the sagacious Hippocrates, viz. Such food as is most grateful, though not so wholesome, is to be preferred to that which is better, but disagreeable.*

* This aphorism which is adopted by our author, is true under some limitations; food may be grateful to the taste, and yet offend the stomach, and it may be well received by the stomach, and yet do harm by its quality or quantity, when received into the blood vessels. There are a few acute diseases in which the natural sympathy between the tongue, the stomach, and the organs of nutrition is not

27. Now, he that is but little versed in the practice of physic, will readily grant, after due consideration, that in all these deviations of nature, several patients have immediately mended, upon their non-compliance with the directions of their physician, and indulging their own inclinations. Nor will this seem strange, if it be considered, that the all-wise Creator has formed the whole with such exquisite order, that as all the evils of nature eminently conspire to complete the harmony of the whole work; so every being is endowed with a divine direction or instinct, which is, in a manner, intervoven with its proper essence, whereby it removes those ills from itself. And this is manifest in the natural terminations of many acute diseases (which generally proceed from God, as chronic ones do from ourselves)* and likewise in the propensions which accompany them, and make way to free the patient from that danger, which art, when exercised by the ignorant, usually occasions. And hence, indeed, the safety of mankind was provided for, who had otherwise been in a melancholy condition, at a time when the healing art was totally confined within the narrow bounds of Greece, which bears much the same proportion to the rest of the world as a little village does to Great Britain. And even at present, what would be the fate of the inhabitants of so many other vast countries, since all Asia, Africa, and America (except a few thinly peopled colonies lately established) and likewise a great part of Europe, remain utterly destitute of the art of physic? But as an elegant comic writer, to distinguish such as were famous for reason and the practice of virtue, from the herd of those that disgrace the human form by a brutal life, says, "they are men, if they behave like men:" so likewise the art of medicine, if it be a real art, and not barely a name, is the best of all worldly gifts, and so much more preferable to all others, as life surpasses all the enjoyments it brings with it.

28. But to return to our subject; how advantageous soever it be, in general, to keep the patient in bed at the beginning of the disease, yet sometimes (which is to be observed) he must be wholly confined to it before the eruption. For instance, when a child, after dentition, is suddenly seized with convulsions, we must consider that this may probably proceed from the endeavour of

dissolved, and hence the necessity of regulating the diet of sick people by the state of their systems, and not by the cravings of the taste, or the strength of the digestive organs.

* This remark would admit of an extensive commentary. Nearly all chronic diseases and their consequences, which have lately been called *disorders*, are the effects of neglected indispositions, or of half cured acute diseases.

nature to drive out the eruptions of the small pox, measles, or scarlet fever, though they yet lie concealed in the skin. In order, therefore, to guard sufficiently against this dangerous symptom, a blister must be immediately applied to the neck, and the child put to bed, and a cordial exhibited with a small quantity of some opiate; whereby the cause of the disease may be more powerfully expelled, and the disturbance also quieted, which occasioned the fit. For instance, five drops of liquid laudanum must be given to a child of three years old, in a spoonful of plague water, or the like. And, in truth, I must suspect, not to say I am certain, that some thousands of children, and some grown persons, have been destroyed for want of the physician's reflecting that these convulsions are only the forerunners of the above-mentioned diseases: for unthinking practitioners taking these fits, which are really symptomatic, for essential diseases, and attempting to cure them by a frequent repetition of glysters and other evacuations, hinder the eruption of the small pox, and so prolong the fits, which they so solicitously endeavour to conquer, and which would, otherwise, certainly vanish spontaneously upon the appearance of the pustules. Besides, the small pox that is preceded by convulsions in children, (as we have elsewhere intimated) attacks them in a gentle manner, and seldom proves very confluent; so that the patient may be put to bed, with much less danger in the beginning of the disease.*

29. But I have observed, that the small pox, which immediately succeeds comatous disorders, proves very confluent; in which case, I rather order a blister, and the opiate described above, than let the patient keep his bed before the eruption: for sometimes, though very rarely, I have known such convulsions precede the fits of intermittents, and have often seen them begun and terminated by comatous disorders, both in children and grown persons; neither of which, however, need be minded, but the fever only is to be vigorously attacked, as it is the primary and essential disease. For, if I were to attend chiefly to the cure of these comatous disorders accompanying the fever, and accordingly try to conquer them by bleeding, purging, and repeated glysters, I should heighten the fever, and of course increase the coma to such a degree, that my patient would be laid asleep for ever; whereas, if I use my utmost endeavour to

* This remark is founded upon universal experience. The danger of the small pox seems to be founded upon the degree of disease which exists in the arterial system. The danger is less when a portion of the disease is extended to the muscles, which are the seats of the convulsions.

cure the fever, all the symptoms dependent on it will easily go off with it; which I desire may be carefully noted, because very fatal mistakes are often committed in this point. But I have treated amply of this in another place.

30. I proceed next to observe, that though the patient may sometimes refrain from bed in the day-time, yet, in case of extreme sickness, a high fever, violent vomiting, a vertigo, a kind of rheumatic pain of the limbs, and the like disorders, he cannot be allowed this refreshment, for these symptoms indicate the contrary; and if they be violent, especially in the young and sanguine, foreshew that there is a copious variolous matter in the body, and threaten great danger from the tumultuary eruption of the pustules, which will prove very confluent. In this case, therefore, as all endeavours must be used to check the immoderate ferment, which notwithstanding, on the one hand, will rage more by the continual warmth of the bed, and yet, on the other hand, the patient cannot keep up, by reason of extreme sickness, unless we relieve him, it is indispensibly necessary to bleed first in the arm, and to give a strong vomit in a few hours afterwards, of the infusion of crocus metallorum, which not only expels the matter occasioning this unusual sickness, but refreshes the patient so much, that being now in a manner well, he is able to refrain from bed. Neither are we to endeavour to weaken the force of the ferment by this method only, but, for the farther safety of the patient, besides the evacuations just mentioned, it will be proper to give him plenty of spirit of vitriol, in every draught of small beer, till the eruption be quite over. And notwithstanding these evacuations, and the use of the cooling drink, the patient must not be allowed to keep his bed in the day, if he can bear to sit up; because these general remedies do not check the assimilation of the variolous matter near so much as once cooling the blood by drawing in the fresh air, and breathing it out by the lungs, which alone immediately abates the symptomatic sickness above mentioned in a surprising manner, as I have several times experienced. But this somewhat unusual method is not necessary, unless in such as are in the prime of life, whose blood has been over-heated with venery, or wine, and in others, (always excepting young children) who, together with the small pox, struggle with the above-mentioned violent symptoms. For where the blood is less inflamed, and the symptoms milder, as there is much less danger of assimilating the variolous matter too hastily, so, of course, neither the above-mentioned evacuations, nor the spirit of vitriol, need be used.

31. I have treated this subject more at large, because I am certain that success or failure in this disease depend chiefly, if not entirely, on the management of the patient in the beginning.

But the eruption being over, (which is completed on the sixth day, from the beginning of the illness, and on the fourth, inclusive, from the first appearance of the pustules) the patient is not to be kept from bed the rest of the distemper throughout, which indeed, as it ought not to be allowed before this day, so the condition of the patient will hardly admit of its being longer delayed if the small pox be of the confluent kind. And let it be remembered, that this is the only sort of which I have hitherto treated; for if the eruptions be few, and distinct, it matters not which method be used, if the physician hath a tolerable share of skill; for want of which (though this kind is naturally void of danger) abundance have died, who unfortunately fell into the hands of such as placed all their hopes in promoting the heat, and so ignorantly conspired with the disease to destroy the patient.

32. From this time the eruptions begin to fill, and inflame the whole body, especially the head, so that the patient, if not a child, grows restless, and cannot readily sleep, which is next to be carefully attended to in this disease; for the calmer the motion of the blood is, the better the eruptions fill, and come to their due size; and, on the contrary, the more violent it is, the more the eruptions sink, their farther progress being checked; so that the expulsion of the peccant matter is not only obstructed, but the order and genuine crisis of every particular phlegmon is also disturbed, whence the eruptions either do not come to supuration in due time, or instead of pus an ichor is at length generated, and instead of the yellow matter, resembling the colour of an honey comb, some black or other preternatural humour, unlike the genuine eruptions of the small pox, is discharged. It seems to me, therefore, that opiates are as much indicated in the confluent small pox, as any particular remedy is in any other disease; being a kind of specifics here, as the bark is in intermittents; though I am well aware that they do not operate by an absolute specific virtue, but only by answering that indication, which consists in quieting the tumultuary motion of the blood and spirits, that always accompanies the confluent small pox in grown persons, and chiefly demands their use. Whoever, therefore, esteems these symptoms to proceed only from the watchings, is not enough acquainted with the nature of this disease: for though it may sometimes happen in this case, that the patient's spirits may be composed and calm, (which frequently happens upon taking laudanum) so likewise sometimes the spirits being in violent motion, check the kindly eruption of the pustules, though the patient sleeps much: which is well worth observation.

33. To treat now of the kinds of opiates: though I have given liquid laudanum several years successfully in this case, never

theless I think syrup of poppies is preferable to it; for though both are used for the same purpose, yet in my opinion laudanum is a little more heating than diacodium. As to the dose of this syrup, it is to be proportioned to the age of the patient, and the urgency of the symptoms; for what perhaps might be too much for one whose spirits are composed, would be too little for another, whose spirits are greatly hurried. For instance, suppose in general that six drams is a sufficient dose for most persons. yet in the small pox, whenever it is wanted, we must give very near an ounce of it to answer any purpose; and no less quantity must be prescribed for a dose throughout the course of the disease. We speak of grown persons now; for in giving it to children, the dose must be lessened in proportion to their age. Children, however, have not the same occasion for opiates in this disease as grown persons, because they are more inclined to sleep as long as it lasts; yet when they are much endangered thereby, I should be afraid to refrain from opiates. But I was going to observe, that it is difficult to settle the dose of opiates in all the cases in which they are required; for whether it be 1. in a tumultuary motion of the spirits; 2. a violent vomiting and purging; or 3. severe pain, (these being the three disorders wherein opiates are chiefly indicated, as we have elsewhere observed) they are to be exhibited in such a manner, that if the first dose answers not the end, it must be repeated at proper intervals, till it does; not so much minding the quantity taken, as the effect it should produce; which being answered, (and not till then) it must be administered less frequently and copiously. But such a space must be interposed between every dose, that we may be able to learn whether the last has taken effect, before giving another; which being obtained, the dose is to be diminished in the course of the disease as there shall be occasion.

34. I have several observations by me to confirm what I have hitherto laid down, but at present will only set down one. On the 13th of April, 1681, Mrs. Cross, a neighbour of mine, came to me in tears, and earnestly begged of me to go and see her son, a youth of ten years of age, who, having been ill four days, she apprehended had the small pox. As I was confined with a fit of the gout, I desired my apothecary to call upon him, and let me know how he was; when he came back, he told me, that the mother had, by the advice of some women, given him the Countess of Kent's powder, and other hot medicines; and had besides, in a manner, buried him under the cloaths, in order to raise a sweat by the weight thereof; which the women have recourse to in this disease, as the last refuge. She had also given him a large quantity of posset drink, wherein marigold flowers and hartshorn had been boiled, which increased the fever, and

caused such a disturbance of the spirits, that the child was very delirious, and could scarce be kept in bed by the attendants. The pustules did not yet appear, at least very visibly, but lay very thick in the skin, the eruption being manifestly hindered by this violent method, which was intended to promote it. I ordered him to be immediately taken out of bed, and not to go into it again, except a-nights only, till after the sixth day; I also prescribed half an ounce of diacodium to be taken directly, which proving ineffectual, I ordered the same dose to be repeated an hour after, but unsuccessfully; for the blood was so violently agitated, that it could not be quieted, before he had taken two ounces and an half; but such a space was interposed between every dose, that I might be certain what effect the last had. Afterwards, I prescribed only half an ounce to be given every night at bed-time, to the end of the disease, which proved sufficient to preserve the calm that had already been obtained by a more frequent use thereof: and by this means the patient recovered.

35. And here I must inform you, that in case the heat and motion of the blood and spirits be extremely violent in the beginning, an opiate, though given in the largest dose, and frequently repeated, will scarce avail, unless the patient quits his bed; for the warmth thereof increases the heat of the disease, so as, upon this account, to make it necessary to give the opiate in a larger dose than perhaps nature is able to bear; which likewise happens, but with less danger of life, when the bark is given in an intermittent fever, whilst the patient keeps his bed. And this perhaps may be the reason why the cure of the intermittent is sometimes protracted, which otherwise might have been sooner performed; and sometimes, likewise, if the fever only remits, it is so increased thereby, as greatly to endanger life.

36. But not to mention extraordinary cases, wherein this remedy may be indicated at any time of the disease; I would have it first exhibited in the evening, when the patient is wholly confined to his bed, (*viz.* the sixth from the beginning of the illness) and repeated afterwards every evening till the seventeenth day, or at least till the danger is over. For on the sixth day the fleshy parts are inflamed, whence the head begins to be disturbed by the humours, which are also inflamed from this cause.

37. But great care must be had to give the opiate earlier in this than in other diseases; because a kind of fit of heat and restlessness always comes on towards evening; and sometimes it happens, unless it be given early, at the decline of the disease, that the patient becoming suddenly somewhat heavier, immediately grows hot, and afterwards complains of sickness, which soon terminates in death; to the astonishment, and contrary to the expectation of his friends, who a little before conceived great hopes

of his recovery : and his death might, perhaps, have been prevented by giving an opiate directly. On these days, therefore, but especially on the eleventh day, I order the opiate to be given earlier ; as at five or six o'clock in the afternoon, and a second dose to be kept in readiness, in case sickness should come on suddenly. For I am thoroughly persuaded that some of my acquaintance have died for want of taking this medicine, when the case required it : so that if opportunity be quick in any case, it is chiefly so in this.

38. Since, therefore, it is so dangerous, either to omit giving an opiate soon enough, or contrariwise to give it so early that its quieting virtue be spent before the time comes for repeating it, it is safest in this uncertainty to order an opiate to be taken at a set hour, every morning and night, on the last and most dangerous days of the distemper. Nor is an ounce of diacodium always a sufficient dose at these times, for this quantity avails no more in a violent inflammation of the blood, and a very tumultuary motion of the animal spirits, than half an ounce in a milder disease. For I have learnt, from repeated experience, that an ounce and half is required in the young and sanguine, to mitigate the violence of the symptoms wherewith they are seized, and which we do our best to prevent ; and in such subjects, this dose may be repeated with safety and great advantage at such times, morning and night, till the patient recovers.

39. Moreover, I own that I have sometimes found it necessary, at the decline of a highly confluent small pox, to exhibit an opiate thrice in the space of twenty-four hours, viz. every eighth hour, on account of the violent motion, or disturbance of the spirits occasioning some sickness, which required it to be repeated more frequently. But it is to be observed, that if the exhibiting diacodium with such frequency be nauseous to the patient, (which often happens on the above-mentioned days) liquid laudanum must be prescribed instead of it ; sixteen drops of which are equivalent to an ounce of diacodium, in case it be prepared according to our method, already delivered.

40. I am well aware that it will be objected by those of a different opinion, that the peccant matter will be fixed, and the salivation diminished by repeating the opiate with such frequency in so large a dose. But to this I answer, that though indeed the spitting will be in some measure abated, it will not however cease so entirely, as not to rise again in some degree, after the opiate has been taken a considerable time, and its virtue is nearly spent, and, besides, will be attended with this double advantage : 1. The patient being strengthened by the opiate, will be better able to expectorate the phlegm, and the saliva, though less copious, be better concocted. 2. The want of sputation is abundantly supplied by the swelling of the hands and face, which happens more

certainly, and rises higher, from the repeated use of the opiate, on those days wherein these parts usually swell, viz. the face, from the eighth to the eleventh day, when it commonly begins to fall; but the hands, from the eleventh day, till the pustules upon these parts be entirely ripe. And I positively assert, (which no person who is thoroughly acquainted with this disease can deny) that the want of either of these swellings when they ought to appear, threatens more danger than the stoppage of the salivation. For my own part, I esteem it much safer to risk the danger of checking the spitting, than to refrain from opiates, which are so very requisite in this disease, that whoever deprives his patient of so great a help, betrays much neglect and unskilfulness.

41. But what I have hitherto delivered, is not to be understood as if I would advise the daily use of diacodium, though in a suitable dose, in young children afflicted with the confluent small pox, unless it threatens great danger; and this for two reasons: 1. because children are not so hot as persons in the prime of life; and 2. because their tender age is less able to bear the continued use of opiates; whereto may be added, 3. that children in this disease sleep most part of the time spontaneously, and so are less sensible of the tediousness thereof; yet, nevertheless, when the eruptions are of a bad kind, or they become delirious, opiates are always indicated: these being certain signs of the irregular motion of the blood and animal spirits.

42. These two particulars of which we have treated so fully, viz. 1. the method of preventing the over-hasty assimilation of the variolous matter at the beginning of the disease, and 2. the manner of checking the inordinate motion of the spirits, arising from the inflammation of the external parts, are the two points wherein the cure of the disease consists; inasmuch as the ill accidents which succeed, for want of sufficiently preventing these two dangers, occasion those fatal symptoms which destroy the patient in this disease. These, therefore, being the chief curative indications, when I have sufficiently answered them according to the method just delivered, I have discharged my duty as a physician, and not a prescriber of medicinal formulæ; which two arts, talents, or provinces, as you please to term them, differ greatly from each other.

43. To mention one thing more, if there be occasion for a blister, it should be made very large, and sufficiently sharp, and applied to the neck, but neither too early, that it may not cease running before the eleventh day, which is attended with most danger, nor deferred to that day, so as to prove prejudicial, at this time, from being laid on too late, by increasing the heat of the blood, which is then scarce able to struggle with the secondary fever. The fittest time, therefore, to apply a blister, is the evening preceding the great crisis of the disease, presently after the opiate

which is to be taken at this time. For if it be applied now, the pain it causes will go off before the critical day, and there will then be a discharge of the peccant matter, which is necessary to conquer the violent symptoms happening on this day. For now the swelling of the face first begins to sink, and the salivation, which had hitherto been copious, to abate; the humour, which occasioned it, being thickened, and difficultly raised. Not to mention that the blister supplies, in some measure, the sinking of the swelling of the face, and the abatement of the salivation, and likewise contributes somewhat to check the secondary fever, which is then very high, the blood being in a manner oppressed, and totally infected with the abundance of pus absorbed from such a multitude of little imposthumes, so that in most of the patients I have treated in this disease, I have observed that the pulse in the wrist could scarce be felt at this time, though it was easily felt the preceding and following day.

44. But amongst all the remedies that occasion a derivation, or a revulsion from the head, none, in my opinion, seems to operate so efficaciously as garlic applied to the soles of the feet. That it does really draw, is manifest by the blisters it frequently raises, and the intolerable pain it sometimes, though rarely, occasions, by inviting the humours to those parts, even without raising blisters; so that to ease it, I have found it needful to order a cataplasma, made of the crumb of white bread, boiled in milk, to be applied thereto. In grown persons, therefore, afflicted with the confluent small pox, I usually apply garlic sliced, and included in a linen rag, to the soles of the feet, from the eighth day, when the swelling of the face first begins to sink, and renew the application every day, till the danger be past.*

45. I must farther observe, that the patient must be kept from flesh throughout the course of the disease, and only allowed small beer for his common drink. In the mean time, it will be convenient for him to live on water gruel, roast apples, and the like. But upon the approach of the suppuration, when the purulent particles return into the blood, and taint the mass, it will be proper to give a few spoonfuls of wine, every morning and night. As to the coverings of the bed, they are to be precisely the same he made use of in health; and he is to be permitted to turn himself in bed as he pleases, whereby the symptomatic sweats may be prevented, which, I conceive, have been sufficiently shewn to injure the patient; and, by this means, the violent inflammation

* The editor subscribes to the praises of garlic delivered by our author as a revulsive remedy in fevers of all kinds which discover a determination to the brain. It should not be applied until after depletion, where it is indicated.

of the pustules, arising from the excessive heat contracted by the fleshy parts, by lying always in the same place, will also be prevented. But I have treated of this at large in another place.

46. I will subjoin a late case, as a specimen of this whole procedure. I was sent for this winter by Lady Dacres, to attend her nephew, Mr. Thomas Chute, a person of a very sanguine constitution, and in the prime of life. The day before I came he was seized with a high fever, vomited a considerable quantity of bilious matter, and had a violent pain in his back. In order to mitigate these symptoms, he went to bed, and by heaping on cloaths, and taking hot liquors, spent a day to no purpose in endeavouring to force sweat, the great tendency to vomiting, and the purging, though moderate, rendering the sudorifics ineffectual, and in the mean time increasing the fever. I suspected the small pox would shortly appear, and likewise prove very confluent; both on account of his youth, and the great inflammation raised in his blood by the fruitless attempt to procure sweat (which if the disease had happened in the summer, would certainly have occasioned bloody urine and purple spots) but chiefly, because I have always observed that in young persons attacked with excessive vomiting, sickness, and extraordinary pain, the succeeding small pox proved highly confluent. For this reason, judging it requisite to use all endeavours to prevent the too-hasty assimilation of the variolous matter, I kept him up, till his usual time of going to bed; and the next day in the morning, which was the third, the small pox not appearing, I directed eight ounces of blood to be taken away from the right arm. The blood was good and florid, having as yet only received the spirituous venom, and not that putrefaction occasioned by a longer continuance of the disease, and generally observable in the blood of persons lately recovered of this disease.* The same day, at five in the afternoon, I exhibited an ounce of the infusion of crocus metallorum, which operated well, carrying off his sickness, so that he seemed much better and willingly refrained from bed, which he did not care to quit before, by reason of his great sickness and giddiness. On the fourth day in the morning, I found the eruptions coming out so copiously, notwithstanding the endeavours I had used to prevent it, that they threatened the utmost danger; I was, therefore, very cautious to keep him up in the day time, and advised the drinking of small beer acidulated with spirit of vitriol. He continued the use of these things to the sixth day, when, though

* What our author calls putrefaction, in this case, is the buffy coat of the blood which occurs in the second or declining stage of certain fevers. It appeared in the case under consideration on the 21st day of the disease, as will appear in the sequel of this section.

he was not sick, but much refreshed by the fresh air, yet his body was loose between whiles; towards night he was obliged to go to bed, which is common in this case; and therefore he continued therein, by my consent, during the whole course of the disease, the eruption being now over. Though the pustules were fewer than I have observed in some that have died in this disease, yet they were more numerous, than they generally are in most that recover. I first exhibited this evening, an ounce of diacodium in cowslip-flower water, and directed it to be repeated every night; I likewise advised that he should have no more cloaths lain on him than he was accustomed to in health; and prescribed for his diet, water gruel, barley broth, and sometimes a roast apple, and for his drink, small beer. On the eighth day I ordered sliced garlic, folded in a linen rag, to be applied to the soles of his feet, and renewed every day till the danger was past. After this the pustules ripened kindly till the tenth day, when visiting him in the morning, though I found him in a fair way, yet I perceived some signs of the secondary fever, along with some kind of restlessness. Apprehending, therefore, the approaching danger, I immediately exhibited the opiate above mentioned, which quieted all the symptoms, and the same evening I prescribed an ounce and half of diacodium. The next morning, which was the eleventh day, (the virtue of the opiate he had taken the night before being spent) he began to grow restless again; whereupon I gave him the same quantity immediately, and repeated it in the evening, and ordered it to be continued morning and night, till he was perfectly recovered. The patient complied, and no dangerous symptom after appeared, except a suppression of urine sometimes, which frequently attacks young persons in this disease, but he made water kneeling in bed. As to the spitting, though it was checked in some measure by the frequent repetition of opiates in so large a dose, yet at distant intervals from the use of them, he expectorated concocted phlegm, and his face and hands swelled sufficiently at the proper time. On the eighteenth day he arose from bed, and I then first allowed him to sup some chicken broth, and afterwards he returned by degrees to his usual manner of living. On the twenty-first day eight ounces of blood were taken away from his arm, which resembled pleuritic blood, and differed little from pus. Lastly, he was purged four times, at proper intervals.

47. It is here to be noted, that as often as the day from the beginning of the illness is mentioned in these sheets, for instance, the sixth, the eleventh, &c. I would not be understood to mean that the confluent small pox always came out on the third day; because I am well aware that sometimes, even in the worst sort, the pustules do not appear till after the third day. But in general the eruption happens on the third day, inclusive from the begin-

ning of the disease. Thus, for instance, a person who is seized with the confluent small pox on Monday, will find the pustules appear on the Wednesday following; and the second Thursday after the first Monday, will be the eleventh day, which is highly dangerous, unless the physician uses his endeavour to prevent it.

48. And I repeat it here once more, that these observations relate only to the confluent small pox, and are no way useful, or required in the distinct kind. Those therefore, who boast of curing this disease when the eruptions are few, and of the distinct kind, impose upon themselves as well as others. But if they have a mind to make a trial of their abilities, let it be in the confluent small pox, especially in such subjects as are seized with it in the vigour of life, or have over-heated themselves by drinking wine too freely; lest being exercised only in slight matters, they should be so far mistaken as to imagine they have saved those, whom their attendants did not destroy.

49. I will not finish this short dissertation without relating a history which was communicated to me whilst I was writing it, by my intimate friend, Dr. Charles Goodall, a fellow, and then censor of the college of physicians; judging it necessary, in order to confirm what I have advanced here and in my other writings, concerning purple spots and bloody urine; for both these symptoms, when they happen in acute diseases, proceed entirely from a violent inflammation of the blood, and therefore indicate cooling remedies. The case is as follows:

"50. A young man of about twenty-seven years of age, slender, and of a hot constitution, was seized in June 1681, with a violent continued fever, attended with a dryness and foulness of the tongue, extreme thirst, a quick pulse, pain in the parts contiguous to the scrobiculus cordis, but especially in the back, where it was continual, and sometimes bloody urine, and numerous brownish spots in the neck, breast, and wrists. The physician was called on the sixth day, and found the patient in great danger from the copious discharge of bloody urine; and upon this account judged that the curative indications were, 1. to cool and thicken the blood, and 2. close the mouths of the relaxed vessels of the kidneys.

"51. Bleeding, therefore, and a lenitive bolus being premised, he earnestly advised the patient to refrain from bed as much as he could, not doubting that the voiding bloody urine was promoted by the continual warmth thereof. He also recommended him rather to sleep upon a leathern couch, and seldom to lie on his back; to drink milk boiled with thrice its quantity of water, and live on panada, rice milk, and roast apples, either alone, or squeezed into water, and sweetened with sugar. And he prescribed the following remedies:

Take of the leaves of red roses, six drams; the inner bark of oak, half an ounce; the seeds of plantain, bruised, three drams; spring water, two pints; spirits of vitriol, enough to give it a grateful tartness; infuse them together in a closed vessel with a gentle heat, four or six hours: to the strained liquor add three ounces of small cinnamon water; and fine sugar enough to sweeten it. Let the patient drink often of this intusion day and night.

“ A glyster of milk and syrup of violets was injected at two in the afternoon, and the following draught exhibited at bed time.

Take of the distilled waters of cowslip flowers, plantain and cinnamon, of each half an ounce; distilled vinegar, two drams; syrup of white poppies, six drams; mix them together.

“ 52. On the seventh day the symptoms abating little, the glyster just described was ordered to be injected every day, and the following emulsion and draught prescribed:

Take of the seeds of succory, endive, lettuce, and purslain, each two drams; the seeds of quinces and white poppies, each a dram and half; four sweet almonds, blanched; beat them very well in a marble mortar; then pour on by degrees a pint and half of barley water, and sweeten the strained liquor with a sufficient quantity of fine sugar. Let twelve spoonfuls of this emulsion be taken every four hours.

Take of the distilled waters of cowslip flowers, water lilies, oak buds and plantain, each half an ounce; distilled vinegar and small cinnamon water, each three drams; confection of hyacinth, half a dram; diacodium, an ounce: mix them together for a draught to be taken at bed-time.

“ 53. On the eighth day, as the fever still continued, and the patient voided much bloody urine, and the spots likewise were numerous in the above-mentioned parts, the physician supposing these symptoms to proceed from the heat, thinness, and acrimony of the blood, ordered bleeding to be repeated, and allowed a freer use of small beer agreeably acidulated with spirit of vitriol. But when the patient began to have an aversion to this liquor, a whey made of milk and juice of lemons was substituted in its stead, and he was likewise permitted to eat lemons thinly sliced, and enveloped with sugar, and to these the following remedies were added:

Take of the conserves of wood-sorrel and hips, each half an ounce ; confection of hyacinth, three drams ; diacodium, a dram and half ; red coral prepared, dragon's blood, Armenian bole, of each a scruple ; syrup of comfrey and mouse-ear, of each enough to make the whole into an electuary ; of which the quantity of a hazel nut is to be taken every six hours, drinking after it a small draught of whey, made with milk and juice of lemons, sweetened with sugar ; or of the vulnerary decoction, acidulated with spirit of vitriol.

“ Let the draught prescribed last night be repeated, with ten drams of diacodium.

“ 54. On the ninth day the petechiæ vanished by degrees, the urine was not so bloody, and the blood that was mixed with it separated more easily, and subsided sooner to the bottom of the containing vessel ; for which reason the patient was advised to continue the use of these remedies ; and in a few days the following were added to the same purpose :

Take of the conserve of red roses (driven through a sieve, and acidulated with spirit of vitriol) four ounces ; Lucatellus's balsam, two ounces ; Armenian bole, dragon's blood, and the species of the electuary of coral, each a dram ; syrup of coral, enough to make them into an electuary ; of which let the patient take the quantity of a nutmeg twice a day, with a draught of the following emulsion :

Take of the seeds of lettuce and purslain, each three drams ; quince seed, a dram and half ; the seeds of white poppies, half an ounce ; five sweet almonds blanched ; beat them well together in a marble mortar ; then pour on by degrees a quart of plantain water, and three ounces of small cinnamon water ; lastly, sweeten the strained liquor with fine sugar.

“ The fever and the fatal symptoms above mentioned, were carried off in three weeks by these remedies ; the spots disappearing, and the urine returning to its natural colour and consistence, the patient by degrees recovered his health.”

55. But though the symptoms above enumerated only accompanied the continued fever, and not the small pox, yet, whenever they happen in either disease, they always proceed from a violent inflammation and an excessive attenuation of the blood, whence it is forcibly driven through the mouths of the vessels. And doubtless the same method is to be used in such a similitude of causes, as far as the nature of the respective diseases will admit. And for this reason I asked Dr. Goodall's leave to communicate

this cure here. Now, if my greatest enemy, (though to judge of the dispositions of others by my own, I should hope I have none) had performed this cure, I should readily have acknowledged, (being overcome by truth) that it was one of the most remarkable I had ever known; for I have long ago experienced the fatal effects of bloody urine in fevers. But as this was effected by my intimate friend, how zealously ought I to contend for truth, and his reputation! * For this gentleman it was, who, at a time when few durst assert that I had made the least discovery or improvement in physic, defended my reputation against those who injured my character, with as much warmth as a son would do that of a father. But though I am so much indebted to his goodness, I would nevertheless have concealed his praises, if they were not due to his merit; it being equally blame-worthy and false to commend or censure without cause. Let no one therefore be displeased with me for affirming, that he is a man of as much probity as I have ever known; for during the many years that I have been particularly intimate with him, I never knew him say, much less do, any thing to the prejudice of another. And how excellent a physician he is will shortly appear, (if his life be prolonged) as he hath with great judgment read the writings both of the ancient and modern physicians, and with singular prudence and industry investigated the nicest rules of practice, without a knowledge of which no man can practice the art with reputation; so that his patients will find him an able and successful practitioner.

56. And now I have delivered my sentiments on this disease, which are deduced from practical observation, and not from a groundless hypothesis; and in reality I cannot conceive how a person should be mistaken, who directs and confines all his reasonings to the bare practice of the art or science which he intends to learn and exercise with reputation. And on the contrary, how is it possible that he should do any thing but spend his life idly in deceiving both himself and others, who employs his time in searching after such things as have not the least relation to practice. And as he would be no honest and successful pilot, who were to apply himself with less industry to discover and avoid rocks and sands, than to search into the causes of the ebbing and flowing of the sea; which, though well deserving the attention of the philosopher, is quite foreign to him, whose only business it is to secure the ships; so neither will a physician, whose province it is only to cure diseases, arrive at a per-

* This tribute of gratitude and praise to Dr. Goodall was merited, for few things require more courage than publicly to defend a physician who has made himself unpopular, by introducing unpopular opinions, or modes of practice in medicine.

fect knowledge of the art of medicine, though he be a person of genius, who bestows less time and application in investigating the hidden and intricate method of nature in producing and nourishing diseases, (whereon their histories also depend) and adapting suitable remedies thereto, than in curious and subtle speculations, that do not at all contribute to snatch the patient from imminent death, which is the intent of the healing art. And this delusory procedure does not only deprive mankind of those singular advantages, which would accrue to them from the ingenuity of many physicians, but renders the art of physic rather the art of discoursing than of curing. And it is come at length to this issue, that the patient must live or die, as the philosopher conjectures, right or wrong; which must always be highly precarious, inasmuch as the first inventors of speculations contended as warmly about their fanciful opinions, as those did who blindly followed them, and it may be, none of them in the right. For, though by much attention we may be able to discover what nature does in fact, and the organs she employs in her operations, yet the manner of its operating will always be a secret to us. Nor is this strange; since it is infinitely more probable, that we poor mortals, who are shut up from the glorious regions of light and life, cannot possibly comprehend the method which the all-wise Creator used in forming the machine; than that an unskilful smith should be ignorant of the manner of making a clock, the structure and motion whereof manifest the great delicacy of the art. And though it evidently appears that the brain is the origin of sense and motion, and the repository likewise of thought and memory, it is, nevertheless, impossible the mind should be so far enlightened by the most exact inspection and consideration thereof, as to understand how so thick a substance, and a kind of pulp, which seems not to be very artfully formed, would suffice for so noble an use, and such excellent faculties. Nor can it be accounted for, from the nature and structure of its parts, how any particular faculty comes to be exerted thereby.

57. And let these particulars suffice for the confluent small pox; which, together with what I have already published concerning this distemper, in my history of acute diseases, comprehends all that I have hitherto discovered and considered, as attentively as I could, relating thereto.

58. I proceed now, in compliance with your request, to communicate the observations I have hitherto made concerning hysteric disorders; which I own are neither so easily discoverable, nor so readily curable as other diseases. However, I will endeavour to acquit myself herein to the best of my ability, and with that brevity which the compass of a letter requires; which in reality I am obliged to on account of my ill health, particu-

larly at this season of the year, when too intense application would immediately bring on a fit of the gout. For this reason I shall avoid prolixity, and proceed accordingly to my usual method; which consists 1. in giving a short history of the disease, according to its genuine natural phenomena; and 2. subjoining the method of cure which has succeeded best with me, and which I formerly learnt rather from my own experience than from reading.

59. It should seem that no chronic disease occurs so frequently as this; and that, as fevers with their attendants constitute two thirds of the diseases to which mankind are liable, upon comparing them with the whole tribe of chronic distempers, so hysteric disorders, or at least such as are so called, make up half the remaining third part, that is, they constitute one moiety of chronic distempers. For few women, (which sex makes one half of the grown persons) excepting such as work and fare hardly, are quite free from every species of this disorder, and several men also, who lead a sedentary life, and study hard, are afflicted with the same.* And though the symptoms arising from hysteric diseases were by the ancients supposed to proceed from some disorder of the womb; yet upon comparing hypochondriac complaints, which we judge to arise from obstructions of the spleen and other viscera, with those symptoms which seize hysteric women, we find a great similitude between them. But it must be owned, that women are oftener attacked with these disorders than men; not indeed because the womb is more indisposed than any other part of the body, but for reasons hereafter to be explained.

60. This disease is not more remarkable for its frequency, than for the numerous forms under which it appears, resembling most of the distempers wherewith mankind are afflicted. For in whatever part of the body it be seated, it immediately produces such symptoms as are peculiar thereto; so that unless the physician be a person of judgment and penetration, he will be mistaken, and suppose such symptoms to arise from some es-

* The calculation of the proportion of fevers to hysterical or nervous diseases delivered by our author, is far from being a correct one, at present in London, where the latter predominate above the former to such a degree as nearly to absorb and destroy them. The late Dr. Huck who practised medicine in London, informed me in the year 1769, that he could not discover any resemblance in the fevers which then prevailed in that city, to those described by Dr. Sydenham. The above proportion is nearly a true one in the United States

sential disease of this or that particular part, and not from the hysteric passion.

61. To exemplify this remark. Sometimes it attacks the head, and causes an apoplexy, which also terminates in a hemiplegia; exactly resembling that kind of apoplexy, which proves fatal to some aged and corpulent persons, and arises from an obstruction and compression of the nerves, occasioned by a copious phlegm contained in the cortical part of the brain. But the apoplexy in hysteric women seems to proceed from a very different cause; for it seizes them frequently after a difficult delivery, attended with a great loss of blood, or proceeds from some violent commotion of mind.

62. Sometimes it causes terrible convulsions, much like the epilepsy, along with the rising of the abdomen and viscera towards the throat, and such strong convulsive motions, that though the patient be otherwise rather weak, she can scarcely be held by the attendants. And she talks wildly and unintelligibly, and beats her breast. This species of the disease, which is commonly entitled the strangulation of the womb, or fits of the mother, happens most frequently to such women as are of a very sanguine and robust constitution.

63. Sometimes this disease attacks the external part of the head, between the pericranium and the cranium, and occasions violent pain, which continues fixed in one place, not exceeding the breadth of the thumb, and it is likewise accompanied with very violent vomiting. I call this species the *clavus hystericus*, which chiefly affects such as have the green sickness.

64. Sometimes it seizes the vital parts, and causes so violent a palpitation of the heart, that the patient is persuaded, those about her must needs hear the heart strike against the ribs. Slender and weakly women that seem consumptive, and girls that have the green sickness, are chiefly subject to this species.

65. Sometimes it affects the lungs, causing an almost perpetual dry cough; and though it does not shake the breast so violently, yet the fits are more frequent, and the patient's senses are also disordered. But this species of the hysteric cough is very rare, and chiefly happens to women of a phlegmatic constitution.

66. Sometimes attacking the parts beneath the *scrobiculus cordis* in a violent manner, it occasions extreme pain, like the iliac passion, and is attended with a copious vomiting of a certain green matter, nearly resembling what is usually called porraceous bile, and sometimes the matter is of an uncommon colour. And frequently after the pain and vomiting have continued several days, and greatly debilitated the patient, the fit is at length terminated by an universal jaundice. Moreover, the patient is so highly terrified, as to despair of recovering; and, as

far as I have observed, this dejection or despondency as certainly accompanies this species of the hysteric passion, as either the pains or vomiting above mentioned. This kind chiefly attacks women of a lax texture of body, or those who have suffered greatly by being delivered of large children.

67. Sometimes this disease sizes one of the kidneys, where, by the violent pain it occasions, it entirely resembles a fit of the stone, not only with respect to the kind of pain, and the part affected, but likewise by the violent vomiting wherewith it is accompanied, and the pain's extending through the whole duct of the ureter: so that it is hard to distinguish whether the symptoms arise from the stone or any hysteric disorder; unless perhaps, the woman's spirit having been depressed by some misfortune a little before the disorder came on, or the discharge of green matter by vomit, should shew that the symptoms are rather to be ascribed to an hysteric disorder than the stone. The bladder also is occasionally affected with this delusory symptom, which not only causes pain, but a suppression of urine, as if there was a stone, though there is none. This last species rarely happens, but the former more frequently. Both are accustomed to attack such women as are greatly debilitated by frequent hysteric fits, and in a bad state of health.

68. Sometimes seizing the stomach, it causes continual vomiting; and sometimes fixing in the intestines, occasions a purging; but both these symptoms are without pain, though the above-mentioned green humour frequently appears in both. Such also as have been weakened by frequent hysteric fits, are chiefly subject to both these species.

69. Moreover, as this disease affects most of the internal parts, so likewise it sometimes attacks the external parts, and muscular flesh, sometimes causing pain, and sometimes a tumour in the FAUCES, shoulders, hands, thighs, and legs, in which kind the swelling which distends the legs is most remarkable. For whereas in dropsical swellings these two particulars may always be observed, namely, 1. they increase towards night, and 2. pit for some time after being pressed by the finger; in this tumour the swelling is largest in the morning, and does not yield to the finger, or leave any mark behind it, and it generally only swells one of the legs. In other respects, if the magnitude and surface of it be observed, it differs so little from dropsical tumours, that the patient can scarce be persuaded to think it otherwise.

70. The teeth also (which one would scarce believe) are subject to this disease, though free from the least cavity, and manifest defluxion that might cause pain, which nevertheless is not at all milder, of shorter continuance, or more easily curable. But the pains and swellings that affect the external parts, chiefly hap-

pen to such women, as are almost worn out by the long continuance and violence of hysteric fits.

71. But the most frequent of all the tormenting symptoms of this disease is a pain of the back, which generally accompanies even the slightest degree of it. The above-mentioned pains likewise have this effect in common, that the part they affect cannot bear the touch after they are gone off, but remains tender and painful, as if it had been severely beaten; but this tenderness wears off by degrees.

72. It is likewise well worth notice that all these symptoms are preceded by a remarkable coldness of the external parts, which seldom goes off before the fit ceases. And I have observed, that this coldness resembles that which is perceived in dead bodies, the pulse notwithstanding continuing regular. Whereto may be added, that most of the hysteric women that I have hitherto treated, have complained of a lowness, and (to use their expression) a sinking of the spirits; which, by their pointing to the region of the lungs, to shew the part affected, seemed to be seated there. Lastly, it is generally known that hysteric women sometimes laugh, and sometimes cry excessively, without the least apparent provocation.

73. But amongst the symptoms accompanying this disease, the most peculiar and general one is the making great quantities of urine as clear as rock water; which upon diligent inquiry, I find it to be the distinguishing sign of those disorders which we call hypochondriac in men and hysteric in women. And I have sometimes observed in men, that soon after having made urine of an amber colour, being suddenly seized with some extraordinary disturbance of mind, they have made a large quantity of clear water, with a continued violent stream, and remained indisposed till the urine came to its former colour, when the fit went off.

74. Moreover in hysteric and hypochondriac subjects, when the disease has been of long standing, they have fetid, and sometimes highly acid eructations, after eating, though they eat moderately, according to the appetite; the digestive faculty being greatly impaired, and the juices vitiated.

75. But their unhappiness does not only proceed from a great indisposition of body, for the mind is still more disordered; it being the nature of this disease to be attended with an incurable despair; so that they cannot bear with patience to be told that there are any hopes at all of their recovery, easily imagine that they are liable to all miseries that can befall mankind, and presaging the worst evils to themselves. Upon the least occasion also they indulge terror, anger, jealousy, distrust, and other hateful passions; and abhor joy, and hope, and cheerfulness, which, if they accidentally arise, as they seldom do, quickly fly

away, and yet disturb the mind as much as the depressing passions do; so that they preserve no mean in any thing, and are constant only to inconstancy. They love the same persons extravagantly at one time, and soon after hate them without a cause: this instant they propose doing one thing, and the next change their mind, and enter upon something contrary to it, but without finishing it; so unsettled is their mind, that they are never at rest. What the Roman orator asserts of the superstitious agree exactly with these melancholic persons. Sleep seems to be a relief from labour and inquietude, but from this many cares and fears arise; their dreams being ever accompanied with the representations of funerals and apparitions of their departed friends. And so much are they distempered in body and mind, that it seems as if this life were a purgatory, to expiate offences committed in a pre-existent state. Nor is this the case only in furious maniacs, but even in those who, excepting these violent passions, are judicious persons, and for profoundness of thought and solidity of speech, greatly excel those whose minds were never disturbed by these tormenting thoughts. So that the observation of Aristotle is just, who asserts that melancholy persons are the most ingenious.

76. But this very dreadful state of mind, which I have mentioned above, only attacks such as have been much and long afflicted with this disease, and are at length overcome thereby; especially if misfortunes, grief, care, hard study, and the like, along with an ill habit of body, have contributed thereto.

77. It would take too much time to enumerate all the symptoms belonging to hysteric diseases; so much do they vary, and differ from each other. Democritus, therefore, in writing to Hippocrates, seems to have had reason to assert, though he mistook the cause of the disease, that the womb was the origin of six hundred evils, and innumerable calamities. Nor do they only differ so greatly, but are so irregular likewise, that they cannot be comprehended under any uniform appearance, as is usual in other diseases; but are a kind of disorderly train of symptoms, so that it is a difficult task to write the history of this disease.*

* The student of medicine will do well in reading with attention the history which our author has given of the symptoms of what are called hysterical and hypochondriacal affections. Modern observations have added but little to it. All these symptoms are the effects of one cause, viz. irregular or morbid action in the nervous and muscular systems. They acquire no new or specific qualities from their seats, or force, any more than the gout, when it invades different parts of the body, and hence they establish the unity of disease.

78. The procatactic or external causes thereof are either violent motions of the body, or, more frequently, some great commotion of mind, occasioned by some sudden fit, either of anger, grief, terror, or the like passions. Upon this account, whenever I am consulted by women concerning any particular disorder, which cannot be accounted for on the common principles of investigating diseases, I always inquire, whether they are not chiefly attacked with it after fretting, or any disturbance of mind; and if they acknowledge this, I am well assured that the disease is to be ascribed to the tribe of disorders under consideration, especially if the diagnostic appears more evident by a copious evacuation of pale urine at certain times. But to these disturbances of mind, which are the usual causes of this disease, must be added, emptiness of the stomach, from long fasting, or immoderate evacuations, whether by bleeding too profusely, or giving too strong a vomit or purge.

79. Having now given a full description of this disease, according to its common symptoms, we are next to consider the internal efficient causes thereof, so far as these can be discovered from all the circumstances which we have described, taken together. And, in my opinion, disorders, which we term hysteric in women, and hypochondriac in men, arise from irregular motions of the animal spirits, whence they are hurried with violence, and too copiously to a particular part, occasioning convulsions and pain, when they exert their force upon parts of delicate sensation; and destroying the functions of the respective organs which they enter into, and of those also whence they came; both being highly injured by this unequal distribution, which quite perverts the economy of nature.

80. The origin and antecedent cause of these irregular motions of the spirits proceed from the weakness of their texture, whether it be natural or adventitious, whence they are easily dissipable upon the least accident, and their office perverted; for as the body is composed of parts which are manifest to the senses, so doubtless the mind consists in a regular frame or make of the spirits, which is the object of reason only. And this being so intimately united with the temperament of the body, is more or less disordered, according as the constituent parts thereof, given us by nature, are more or less firm. Hence women are more frequently affected with this disease than men, because kind nature has given them a finer and more delicate constitution of body, being designed for an easier life, and the pleasure of men, who are made robust that they might be able to cultivate the earth, hunt and kill wild beasts for food, and the like.

81. But that the irregular motion of the spirits is the cause of the disease, is fully manifest from the symptoms just enumerated; I will only mention the principal, beginning with that re-

markable one, the strangulation of the womb, or fits of the mother. In this case the spirits being copiously collected in the lower belly, and rushing with violence to the fauces, occasion convulsions in all the parts through which they pass, puffing up the belly like a ball; which however is only a kind of convulsion or conglobation of the parts, spasmodically affected, that cannot be suppressed without using violent means. The external parts and the flesh in the mean time being in great measure destitute of spirits, which are carried another way, frequently become so cold, both in this and all the other kinds of hysteric disorders, that dead bodies are not colder, whilst the pulse remains in its natural state; this symptom however is not dangerous, unless it be owing to some preceding excessive evacuation.

82. The same may be said of that violent kind of this disorder which in outward appearance resembles the bilious colic, or iliac passion, wherein the patient is afflicted with a very violent pain, in the parts contiguous to the scrobiculus cordis, along with a copious discharge of green matter by vomit; which symptoms proceed only from a forcible impulsión of the spirits stagnating in those parts, occasioning the pain, convulsion, and loss of their functions.

83. For it is not immediately to be concluded, because the discharges upwards and downwards, in this disorder, are sometimes green, that it is seated in the fluids, or that the violent pain proceeds from the acrimony of some humour vellicating the parts to which it adheres, which for this reason we should esteem the cause of the disease, and therefore judge that it ought to be thoroughly expelled by emetics and cathartics. For it appears that the sickness, which seizes those who go to sea, occasioned by the agitation of the animal spirits from the motion of the ship, is attended in healthy subjects with a vomiting of green matter, though but half an hour before, no such bile as we term porraceous, existed in the body. Again, do not children in convulsive fits, in which the animal spirits are principally disordered, evacuate a matter of the same colour upwards and downwards? Whereto must be subjoined, what is manifest from daily experience, viz. that though such women and children should be thoroughly emptied by repeated purging, yet the greenness would still appear in the discharges upwards and downwards. Moreover the green matter increases upon the frequent use either of emetics or cathartics; because both these evacuations cause a great disturbance of the animal spirits; which, I cannot tell how, quite destroys the ferment of those parts, or by the violence of the convulsions forces some juices of a strange nature into the stomach and intestines, which has the property of tinging the juices of this colour. The chemists, indeed, though

they cannot furnish us with better remedies, than may be obtained from pharmacy, are however, able to gratify our curiosity, by exhibiting two equally clear transparent liquors, which, upon mixture, immediately become of some deep colour, as if there were conjuration in the case. But, in reality, the consideration of colours is so insignificant and variable, that no certainty can be had from them, with respect to the nature of those bodies wherein they appear; for it does not more necessarily follow, that whatever is of a green colour is acrid, than that all acrid things are green. Upon the whole it is apparent, that the violent pain which almost destroys such as are seized with the hysteric colic, and the evacuation of the green matter, proceeds entirely from the violent rushing of the spirits to the parts beneath the scrobiculus cordis, and contracting them by convulsions.

84. To this irregular motion of the spirits the *clavus hystericus* is to be ascribed, in which all the spirits are collected in a certain point of the pericranium, occasioning such a kind of pain, as if a nail were driven into the head, and attended with a copious discharge of green matter by vomit. And this contraction of all the spirits into a kind of point differs little from the collection of the rays of the sun by a burning glass; for as these burn by their united force, so those for the same reason cause a pain, by tearing the membranes with united violence.

85. And from the same inordinate motion of the spirits, which disturbs the mixture of the blood, arises the voiding of a copious clear urine; which is a frequent symptom in hysteric and hypochondriac disorders; for, when the due circulation of the blood is often disturbed, the serum is hurried to the urinary passages before it has remained long enough in the body, to be impregnated with those saline particles that render it of a straw colour. We have frequent instances of this, in those who drink too freely, especially of thin and attenuating liquors, whose urine immediately becomes transparent thereupon: in which case the blood being stocked with an over proportion of serum, which it cannot retain, discharges it quite clear, and not yet coloured by the juices, by reason of its too short stay in the body.

86. Three years since a nobleman sent for me, who seemed to be afflicted with a hypochondriac cholic, differing little from an iliac passion, attended with pain and immoderate vomitings, which he had long laboured under, so that he was in a manner worn out. During the whole course of the disease, whenever he was in his worst state, I observed that he always voided a clear colourless urine, but upon the abatement of the disorder it inclined to its natural straw colour. Visiting him one day I found his urine that was made at three several times, and kept apart, of a straw colour, and he was very cheerful, had an appetite, and

thought of eating something of easy digestion ; but some person coming in that instant, and putting him into a violent passion, he immediately thereupon made a large quantity of very clear water.

87. Possibly the spitting, which is so common a symptom in hysteric subjects, arises from the spirits, disturbing the mixture of the blood : they spit a thin saliva for many weeks, as if it were produced by mercurial unction ; for during this commotion of the blood, which renders it unfit to perform excretions in the natural way, the serum accidentally taking this contrary course, is not discharged by the kidneys according to the laws of nature, but derived to the glands from the extremities of the arteries, and empties itself by the salival ducts in the form of saliva. The same may be said of those profuse night sweats which sometimes seize hysteric women, and proceed only from the ill state of the serum of the blood, which disposes it to be thrown on the habit, from the irregular motion of the blood just mentioned.

88. It is manifest also that the coldness of the external parts, which often happens in hysteric disorders, arises from the spirits forsaking their station, and crowding too much to some particular part ; and doubtless both the crying and laughing fits, which frequently affect hysteric women without any provocation, are caused by the violent action of the animal spirits upon the organs which perform these animal functions.

89. And by the way, I must observe that men are sometimes subject to such crying fits, though rarely. I was called not long since to an ingenious gentleman, who had recovered of a fever but a few days before ; he employed another physician, who had blooded and purged him thrice, and forbid him the use of flesh. When I came and found him up, and heard him talk sensibly on some subjects, I asked why I was sent for ; to which one of his friends replied, If I would have a little patience I should be satisfied. Accordingly, sitting down, and entering into discourse with the patient, I immediately perceived that his under lip was thrust outward, and in frequent motion (as it happens to fretful children, who pout before they cry) which was succeeded by the most violent fit of crying I had ever seen, attended with deep and almost convulsive sighs ; but it soon went off. I conceived that this disorder proceeded from an irregular motion of the spirits, occasioned in part by the long continuance of the disease, and partly by the evacuations that are required in order to the cure ; partly also by emptiness, and the abstinence from flesh, which the physician had ordered to be continued for some days after his recovery to prevent a relapse. I maintained that he was in no danger of a fever, and that his disorder proceeded wholly from emptiness ; and therefore ordered him a roast chicken for dinner, and

advised him to drink wine moderately at his meals ; which being complied with, and he continuing to eat flesh sparingly, his disorder left him.

90. To conclude (not to mention the other concomitant symptoms of this disease) the disturbance and variable indisposition of body and mind, which prevail in hysteric and hypochondriac subjects, arise from the same inordinate motion of the spirits : for such persons not having that firmness of spirits which the robust, and those who never want vigorous spirits, always possess, cannot bear misfortunes, but being soon moved by passion or pain, are as much affected as those whose minds are originally weak, or rendered so by a long train of disorders, or their long continuance. For the strength and steadiness of the mind, during its union with the body, chiefly depends on the firmness of the spirits which are subservient thereto, which are in reality composed of the finest particles of matter, and bordered upon immaterial, or spiritual beings. And as the frame of the mind, if I may use the expression, is much more curious and artful than the structure of the body ; as consisting in an harmony of the most excellent, and almost divine faculties ; so if the constitution be any way disordered the evil must be so much the greater, the more excellent and delicate the workmanship was, whilst it remained entire. And this indeed is the case of those miserable dejected persons we have described, which the positive command of the proudest stoic would not sooner relieve, than the tooth-ach would be prevented by a person's firmly resolving not to suffer his teeth to ach.*

91. I conceive now that it is sufficiently manifest that all the kinds of this disease are to be ascribed to a disorder of the animal spirits ; and not to the ascent of malignant vapours from corrupted semen, or menstuous blood, to the parts affected, as some authors have asserted ; or, as others affirm, to a latent depravity of the juices, or a collection of acrid humours. For that the cause of the disease does not lie concealed in any morbid matter, appears evident from this single instance : If a slender weak woman, otherwise usually healthy, happens by mistake to be debilitated and exhausted by a strong vomit or purgative, she will be infallibly seized with some one of the concomitant symptoms of this disease ; which would rather have been carried off than occasioned thereby, if the cause thereof had been contained in a humour. The same may be said of too great a loss of blood,

* Our author has given a correct account of the predisposing cause of hysterical diseases, viz. habitual or accidental debility.

whether it be taken away by bleeding, flows immoderately after delivery, or be diminished by inanition and too long abstinence from flesh; all which would rather be preventive than productive of hysteric diseases, if the cause thereof were included in some kind of matter; whereas, on the contrary, they are never more certainly occasioned than by these evacuations.

92. But though it abundantly appears that the original cause of this disease is not seated in the fluids, it must nevertheless be owned, which indeed is fact, that the irregular motion of the spirits, whence it proceeds, generates putrid humours in the body; because the function both of those parts which suffer from the violent action of the spirits upon them, and those which are deprived thereof, are quite destroyed. And most of these being a kind of separatory organs or strainers, designed for the reception of the excrementitious parts of the blood, it follows, that if their function be any way injured, abundance of the impurities must needs be collected in the body, which had been expelled, and consequently the whole mass of blood rendered more pure, provided every organ had done its office, which would not have been wanting, if each had received its proper supply of spirits. To this cause I ascribe remarkable cachexies, loss of appetite, and the green sickness in young women (which latter is doubtless a species of hysteric disorders) and all the numerous evils which trouble those who have been long afflicted with this disease; for all these proceed from corrupt juices collected in the blood, and derived thence to various organs. Of this kind is a dropsy of the womb in women who have long laboured under hysteric disorders, proceeding from a translation of vitiated juices from the blood to these organs; which impairs their functions, whence they first become sterile and the tone of the parts is quite destroyed; and afterwards sanies and serum are generated, which not only distend the ovaries and ova considerably, but insinuating themselves into the interstices of the teguments, greatly swell them, as appears upon dissecting the bodies of such as perish by this disease. In the mean time the hysteric disposition is the primary cause of these and other similar humours, though they are not of the same kind with it.

93. In the same manner, in a quartan, wherewith a person in perfect health may be seized by residing two or three days in moist and marshy places; some spirituous venom of this disease is first communicated to the blood, which remaining a considerable time, and the animal economy being at length injured, taints all the juices of the body, and quite alters their nature; whence the patient, especially if he be in the decline of life, is disposed to cachexies and other disorders, which succeed inveterate intermit-

tents. And yet these intermittents are not to be cured by those remedies which are adapted to purge off such humours, but by such specifics as are immediately curative of these disorders.

94. From what has been advanced, it seems evident to me, that the chief curative indication in this disease, is that which directs the strengthening the blood, which is the source and origin of the spirits ; this being effected, the invigorated spirits may preserve that order which suits the due order of the whole and every part of the body. But as this disorder of the spirits may, by its long continuance, have vitiated the juices, it will be proper first to lessen their quantity by bleeding and purging, if the patient be not too weak, before we proceed to strengthen the blood ; which can scarce be done, so long as we are obstructed by abundance of foul humours lying in the way. But as the pain, vomiting, and purging, are sometimes so violent, that they cannot safely be neglected, till we have answered the primary intention of strengthening the blood, we are to disregard the cause for a time, and begin the cure by quieting the symptoms, for that purpose exhibiting an opiate ; after which we must endeavour to mend and strengthen the spirits, the weakness of them being the cause of the disease. And as experience shews that there are many fœtid medicines which are adapted to compose the tumultuary motion of the spirits, and keep them in their proper places, which for this reason are entitled hysterics, recourse must be had to them, whenever such intentions are to be answered.*

95. With this view, I first bleed in the arm, and afterwards give a cathartic for three or four mornings successively. During these evacuations the patient seems to grow rather worse than better ; because they increase the disorder by the hurry they occasion, which I take care to inform her of at first, that she may not be dejected ; it being the nature of this disease to sink the spirits. Be this as it will, the primary intention cannot be conveniently answered without carrying off a part of those foul humours, which we suppose to have been collected by the long continuance of the disease.

96. After these evacuations, in order to strengthen the blood and the spirits proceeding therefrom, I prescribe some chalybeate medicine to be taken for thirty days ; this being as effectual a remedy as can be given in this case ; for it impregnates the vapid

* There can be no doubt of hysteria often existing with plethoria, and of its paroxysms being much influenced by it. Occasional bleeding should be employed to reduce the tone of the blood vessels, before stimulants are given to invigorate the nervous system. Purges and emetics cannot be substituted for the lancet in these cases.— They both encrease nervous debility.

and languid mass of blood with a certain volatile ferment, whereby the drooping spirits are roused and revived. And this is manifest upon administering steel in the green sickness ; for it evidently raises and quickens the pulse, heats the external parts, and changes the pale colour of the face to a florid red. But it must be noted here, that bleeding and purging are not always to be used before chalybeates ; for in case the patient be extremely debilitated and almost worn out by the continuance of the disease, they may and ought to be omitted, and we are to begin with steel. This is a caution well worth observing.

97. Steel, in my opinion, is best given in substance ; and as I have never found or heard that it injured any one, who used it in this manner, so, much experience hath convinced me that it cures with more expedition and certainty than any of the common preparations thereof ; for officious chemists rather lessen than improve the virtues of this and other excellent medicines, by their method of preparing them. I have likewise been informed (which if it be true, will much strengthen our assertion) that the crude ore is more efficacious in curing diseases, than iron which has been refined by fusion ; but for the truth of this I have only the author's word, not being certified of it from my own experience. This, however, I certainly know, that all the best remedies hitherto discovered owe their principal virtues to nature ; for which reason grateful antiquity termed them the workmanship of the Supreme Being, and not of man. But that an excellent medicine may be productive of surprising effects, by its native goodness and efficacy, in whatever form it be taken, is plain from the bark and opium : nor does the skill of a physician appear so manifest in preparing, as in chusing and adapting those remedies which nature hath prepared with her own fire, and abundantly supplies. All we have to do, therefore, is to reduce medicines to such a form, that their substance, or virtues, may be more effectually communicated to the body, which we are sufficiently able to perform. Next to steel in substance, I prefer the syrup thereof, which is prepared by infusing filings of steel or iron in Rhenish wine without fire, till it be sufficiently impregnated therewith ; and afterwards straining it off, and with a sufficient quantity of sugar boiling it to the consistence of a syrup.*

98. I do not interpose cathartics at set times during a course

* So powerful are the effects of iron in all its forms, that no one of them should be preferred, in all cases. They should be selected according to circumstances, and occasionally changed even in the same disease.

of chalybeates, because they seem to destroy the effects of steel both in hysteric and hypochondriac disorders. For when I chiefly propose to quiet the spirits, and restore and strengthen their frame, the gentlest purgative does, in one day, undo all that I have been able to perform by the use of steel for a week before; and thus by destroying the effects of the medicine, and exhibiting it afresh, I trifle with myself and patient both. And doubtless this practice of purging between times, which obtains in the use of the chalybeate waters, renders them less efficacious. I am well aware, however, that some persons have been cured, not only though purgatives have been interposed, but notwithstanding they have been given daily along with steel; but the success here is rather to be ascribed to the remarkable virtue of the steel, than to the skill of the physician: for if purgatives had been omitted, the cure would have been sooner completed.*

99. Moreover, I cannot conceive what benefit can accrue from so frequent a repetition of cathartics in several other diseases besides that under consideration: for though it must be owned that they clear the intestines of foul matters, and sometimes also in some measure expel ill humours contained in the blood; yet, on the contrary, it is as certain, that a frequent repetition of them in weak persons, especially if they be young, proves very detrimental; because a large quantity of humours is thereby carried to the intestines, where they occasion preternatural fermentations, whence swellings arise in the lower belly, which increase daily in proportion to the frequency of purging, and at length these parts, through their weakness and a defect of natural heat (being in a manner oppressed with a load of humours) soon waste and putrefy. And sometimes also the function of the viscera, being destroyed by the causes just mentioned, hard tumours, resembling the king's evil, and swellings of this kind, arise in the mesentery, and at length occasion death. For these reasons I judge it safest in children, after a few general evacuations, to endeavour to strengthen the blood and viscera, which may be effected by canary alone, or by infusing strengthening herbs therein; provided a few spoonfuls of it be given morning and night, in proportion to the age of the patient, and the use of it continued for a sufficient space of time. But as external medicines easily penetrate the tender bodies of children, and consequently communicate all their virtue to the blood, whatever it

* The whole of this section deserves attention. Even in the phlethora which sometimes accompanies hysteria, purging, as has been remarked, is often hurtful.

be, it is proper in swellings of the abdomen, whether they proceed from scrophulous disorders, or the genuine rickets, to have recourse to liniments that may strengthen the blood and viscera, and remove any morbid taint wherewith they are affected.

Take of the leaves of common wormwood, the lesser centaury, white horehound, germander, ground pine, scordium, common calamint, feverfew, meadow saxifrage, St. John's wort, wild thyme, golden rod, mint, sage, rue, carduus benedictus, penny royal, southernwood, camomile, tansey, lily of the valley, all fresh gathered and cut small, of each one handful; hog's lard, four pounds; sheep's suet, two pounds; claret, a quart; infuse them together in an earthen vessel upon hot ashes for twelve hours; then boil them till the aqueous moisture is exhaled, and press out the ointment. Let the abdomen, hypochondria, and arm pits be anointed therewith morning and night, for thirty or forty days running.

100. But it must be farther observed with respect to the rickets, that in such swellings as formerly affected the abdomen in children, after inveterate intermittents, and resembled the true rickets, repeated purging seemed to be indicated; for before the use of the bark, intermittents continued a long time, and deposited a sediment, which occasioned such swellings, and hence they could only be removed by frequent purging. But in the genuine rickets purging must not be repeated more than once or twice at most, before beginning a course of alteratives; and whilst the parts affected are anointed, let the wine above mentioned be taken, or, if it can be done, let the child use small beer for his common drink, wherein a sufficient quantity of all, or several of the afore-mentioned herbs are suffered to stand in infusion. Lastly, this observation deserves to be carefully noted, because I am well assured that many children have been destroyed by the frequent repetition of cathartics, which perhaps the swelling of the belly seemed to demand. But this by way of digression.

101. If it be objected that the filings of steel may stick to the bowels, and do mischief, unless cathartics be exhibited at proper intervals: I answer, first, that I never observed this ill effect in any of my patients; and besides, it is much more probable that the steel, being enveloped in the mucus and excrementitious humours of those parts, will at length be evacuated therewith; than when they are agitated by purgatives, which occasion unusual costiveness, gripings and contractions of the intestines,

whence the particles of the steel, which adhere to their coats, may enter deep into them.

102. During a course of chalybeates, in order to strengthen the blood and animal spirits, hysteric medicines are to be administered in such manner and form, as are most agreeable to the patient; though if they can be taken in a solid form, they will more effectually keep the spirits in their function and place, than in a liquid one, viz. in decoction, or infusion; for the substance itself affects the stomach longer with its taste, and communicates its virtue more intimately to the body.

103. Upon the whole, in order to answer all the indications above enumerated, I usually direct the following few common and simple remedies with success. Let eight ounces of blood be taken from the right arm.

Take of galbanum, dissolved in tincture of castor, and strained, three drams; tacamahac, two drams; mix them together for a plaister to be applied to the navel. Next morning let the patient begin with the following pills:

Take of the great purging pills, pil. cochix, two scruples; castor powdered, two grains; balsam of Peru, four drops; make them into four pills, to be taken at five in the morning, sleeping after them. Let them be repeated two or three times, either every morning or every other morning, according to their operation, or the strength of the patient.

Take of the distilled water of black cherries, rue and briony, each three ounces; castor, tied up in a piece of linen, and suspended in the vial, half a dram; fine sugar, enough to sweeten the whole; mix them for a julap; of which let four or five spoonfuls be taken when the patient is faint, or low spirited, dropping into the first dose, if the fit be violent, twenty drops of spirit of hartshorn.

104. After having taken the purging pills, as above directed, let the patient proceed to the following remedies:

Take of the filings of iron, eight grains; extract of wormwood, enough to make it into two pills; to be taken early in the morning, and at five in the afternoon, for the space of thirty days, drinking after each dose a draught of wormwood wine.

Or, for daily use,

Take of the filings of iron, and extract of wormwood, each

four ounces ; mix them together ; let sixteen grains, or a scruple of this mass, be made into three pills, and taken at the times above mentioned.

Or, if a bolus be more agreeable,

Take of the conserve of Roman wormwood, and orange peel, each an ounce ; candied angelica and nutmeg, and Venice treacle, each half an ounce ; candied ginger, two drams ; syrup of orange peel, enough to make the whole into an electuary.—Take of this electuary a dram and a half ; the filings of iron, finely pulverized, eight grains ; syrup of orange peel, enough to make them into a bolus ; to be taken every morning, and at five in the afternoon, with a draught of wormwood wine after it.

Take of the finest myrrh and galbanum, each a dram and half ; castor, fifteen grains ; balsam of Peru, enough to make them into a mass ; of every dram of which let twelve pills be formed ; three whereof must be taken every night during the process, with three or four spoonfuls of compound briony water after them.

But if these pills should loosen the belly, as they sometimes do, in such as are easily purged, on account of the gums they contain, let the following be substituted in their stead :

Take of castor, a dram ; volatile salt of amber, half a dram, extract of rue, enough to make them into twenty-four pills ; three of which are to be taken every night.

105. But it must be noted here, that chalybeates, in whatever form or dose they are exhibited, do sometimes occasion great disorders in the sex, both of body and mind, not only in the beginning, which happens to most persons who take them, but during the whole time of their continuance. Now in this case, the course is not immediately to be interrupted, but that the patient may bear them the better, a proper dose of laudanum must be given every night, for some time, in any hysteric water.

106. But when the disease is gentle, and does not seem to require the use of steel, I judge it sufficient to bleed once, and purge three or four times, and then to exhibit the alterative hysteric pills, above described, every morning and night for ten days. This method seldom fails of curing when the distemper is not severe ; and the pills alone often do great service, without bleeding or purging.

107. It is however carefully to be noted, that some women, by reason of a certain peculiarity of constitution, have so great an aversion to hysteric medicines, which are so generally serviceable in this disease, that, instead of being relieved, they are much injured thereby. In such, therefore, they are to be wholly omitted: for, as Hippocrates observes, it is fruitless to oppose the tendency of nature; and in reality this idiosyncrasy, or antipathy, is so remarkable and so common, that unless regard be had to it, the life of the patient may be endangered, and this not only from the hysteric medicines, but from several others; in confirmation whereof I will at present produce only a single instance; thus, some women in the small pox cannot bear diacodium, because it occasions giddiness, vomiting, and other hysteric symptoms, whilst liquid laudanum agrees with them very well. I experienced this, whilst I was writing this epistle, in a young lady in the small pox, to whom I had given diacodium on the sixth and seventh night, and she was seized on both nights with the above-mentioned symptoms, and the inflammation of the pustules did not go on regularly; but afterwards, upon using laudanum, she was freed from these symptoms, and the swelling of the face increased, the pustules filled every day, and the restlessness and anxiety which made a kind of fit of the small pox, were wholly removed every time this opiate was exhibited; the patient being strengthened and revived thereby. This by way of digression.*

108. And in this manner hysteric diseases, and most kinds of obstructions, but especially the green sickness, and all suppression of the menses, are generally cured. But if the blood be so weak, and the irregular motion of the spirits so considerable, that the disorder will not yield to a course of chalybeates, as above directed, the patient must drink some steel-water, such as that of Tunbridge, or some others lately discovered. For the chalybeate virtue of these waters is more intimately commu-

* Opium, more than any other medicine, acquires peculiar properties from the manner of its preparation, for which reason all its preparations should be tried before it is laid aside in cases that require it, and they should be constantly changed when any one of them loses its effects.—The advice of our author in the former part of this section, not to oppose antipathies to certain remedies, should by no means be followed, nature being in this instance, as unskilful a guide as she is in many others. There is scarcely any antipathy but what may be overcome. More lives I believe have been lost by not subduing them, than have ever been “endangered” by opposing them, when they have had for their objects opium, bark, bleeding, emetics, and other remedies of the first necessity and character.

nicated to the blood on account of the large quantity that is drank, and also of their agreeableness to nature, and proves more effectual in curing diseases than the choicest preparations of iron, however magnified by chemists.

109. But this caution must particularly be observed in drinking them; viz. that if any disorder happens which may be referred to hysteric symptoms, they are to be omitted for a day or two, till that symptom goes off, which would otherwise hinder the water from passing off freely. For though these waters are not so apt to move the humours, and cause a disorder of the spirits, as the gentle officinal cathartics, yet they in some measure move the humours, inasmuch as they are diuretic, and, besides, they frequently purge. But if the waters themselves obstruct their own passage, by disturbing the humours and spirits, it must needs be highly improper to order cathartics to be taken once or twice a week during a course of them; and still more absurd to mix purgatives therewith: which occasion both these and other mineral waters to pass more slowly and difficultly.

110. I must here acquaint you, that though some are of opinion, that those waters contain a solution of the principles, or elements of iron, which is the same thing as supposing liquid iron; yet I doubt not that they are only simple elements, impregnated with the ore or mineral which they lick up in their passage through the mine. And this may be made manifest, by pouring some gallons of water upon a sufficient quantity of rusty nails, letting them stand some time together in infusion; and afterwards adding to a small quantity thereof, a little powder of galls, a few leaves of green tea, or something of the like kind; for thus it will be tinged in the same manner as mineral waters are by such mixture. Moreover, these natural, or artificial waters (which name soever you give them) being drank in the summer time, and in a healthful air, are productive of the same effects.

111. But however this be, if the disorder proves so inveterate as not to yield to the steel waters, the patient must be sent to drink some hot sulphureous waters, as those of Bath; and after having drank them for three mornings successively, she must bathe in them the fourth, and the following day drink them again; and continue this course of drinking and bathing alternately for two months. For in the use of these and all kinds of mineral waters, it is to be carefully noted, that the course must be continued, not only till the patient finds some relief, but till she perfectly recovers, so as to be in no danger of a sudden relapse.

112. Venice treacle alone, provided it be frequently used, and continued for a sufficient time, is an excellent remedy in this disease, and likewise in many others proceeding from a want of

heat and digestion: it is perhaps the most effectual medicine hitherto known, how much soever it is contemned by most persons, because it is common and of ancient date.

113. If the patient be not of a slender and bilious habit of body, an infusion of gentian, angelica, wormwood, centaury, orange peel, and other strengthening simples in canary, does great service, a few spoonfuls of it being taken thrice a day. I have advised some hysteric women to drink a large draught of canary by itself at bed time, for some nights running, and they have been eminently relieved; the whole body having been much strengthened, and such as were before cachectic, becoming fresh coloured and brisk thereby.*

114. Moreover, the cortex is sometimes found to strengthen the blood and spirits in a wonderful manner; and I have known several hysteric women and hypochondriac men recovered, who were reduced to great weakness through the long continuance of their respective diseases, by taking a scruple of it every morning and night for some weeks. But this remedy proves most effectual in that species of hysteric disorders, which is accompanied with violent convulsions, and wherein the patients beat their breasts: it must, however, be owned, that this medicine does not so certainly and frequently cure this distemper, as intermittents.† But to mention this by the way, though the bark is so effectual in curing intermittents, and we use it freely ourselves, and administer it to our wives and children whenever there is occasion; yet there are those who dislike it as much now, because it cures with such expedition and certainty, as they did formerly, because it was but just discovered. And to this fate the best men, as well as the best remedies, have generally been exposed; but by this we try our dispositions as by a touchstone, and hence discover whether we are good or bad men; namely, from the degree of joy or grief we feel, whenever the good of mankind is promoted by any common benefit, and the favour of Providence.

115. But when any of the remedies above directed do not agree with the patient, as it frequently happens in thin and bilious habits, recourse may then be had to a milk diet. For some women (which may seem strange at first view) have been cured of long and obstinate hysteric disorders, which had baffled all the endeavours of the physicians, by living on milk only for

* The sweet wines have great advantages in debilitated habits, over those in which spirit, or an acid predominates, in being more durably cordial, and more nourishing.

† Where the muscular system is much affected in hysteria, it is probable the bark may be as effectual as it has been in the tetanus,—a disease which is seated chiefly in the muscles.

some time, and especially of an hysteric cholic, which can only be relieved by opiates, and therefore women are accustomed to repeat them at intervals, the pain returning as soon as the effect of the anodyne ceases. But what is most surprising in this method of cure is, that milk, which yields only a crude and cold nourishment, should nevertheless, by use, strengthen the spirits; and yet this will not seem at all repugnant to reason, if it be considered that milk, affording only a simple aliment, does not give nature so much trouble in digesting it, as food and liquors of a more heterogeneous kind do, and that an equal mixture of the blood and spirits necessarily follows this perfect digestion. For it must likewise be observed, that it is not the bare weakness of the spirits considered separately, but their debility compared with the state of the blood, that may be the cause of those constitutional disturbances they suffer; for a child may have sufficiently strong and firm spirits with respect to its blood, which notwithstanding may not be proportionable to the blood of a grown person. Now as the continued use of milk (though it be a crude and slender aliment) renders the blood more soft and balsamic; if the spirits thence generated be but adequate thereto, the cure goes on well. But notwithstanding the advantages that might accrue from such a diet, there are some who cannot support the inconveniencies that generally accompany it in the beginning; because it is apt to curdle in the stomach, and does not afford sufficient nourishment to keep up the ordinary strength of body.*

116. But the best thing I have hitherto found for strengthening and cheering the spirits is riding on horseback some hours almost every day. For, as this kind of exercise most affects the lower belly, which is the seat of the excretory vessels, appointed by nature to carry off all the excrementitious parts of the blood, there can hardly be any disorder of the functions, or natural weakness of the organs, so considerable as not to be relieved, by the often repeated agitation of the body, the same day in the

* Where milk is offensive to the stomach, or too nourishing, runnet whey should be substituted in its room. Many persons afflicted with highly excitable nerves in which none of the common articles of aliment can be borne, have been relieved by living exclusively upon whey, so as to prepare them for being cured by exercise, and other tonic remedies. To render the preparation of this excellent article of diet and medicine more prompt and easy, a single runnet or dried calf's stomach should be cut into small pieces, and infused in a quart of sound old Madeira wine. One or two table spoonsful of this wine will turn two quarts of milk without exposing it to the action of fire. This tincture will retain its virtue for years.

open air. Neither can any person have the innate heat so extinguished, as not to be roused afresh by this exercise. Nor can there be any preternatural substance or vitiated juice, so intimately lodged in any cavity of these parts, which cannot, by the use thereof, either be reduced to such a state as is agreeable to nature, or dissipated and expelled. And by this constant motion, the blood, being continually agitated and mixed, is purified and strengthened likewise. And in reality, though this exercise does not agree so well with women who lead an easy and sedentary life, as they may be injured by motion, especially in the beginning, it is nevertheless very proper for men, and soonest recovers their health *

117. To produce an instance of its efficacy: a reverend and learned prelate having applied himself too intensely to his studies for a long time, was at length seized with an hypochondriac disorder, which, by its long standing, depraved all the ferments of the body, and destroyed the digestions. He had gone through some courses of chalybeates, and tried most mineral waters, with repeated purgation, all kinds of antiscorbutic medicines, and abundance of testaceous powders, which bid fair for sweetening the blood. Being thus in a manner worn out, partly by the disease, and partly by the continued use of remedies for so many years, he was at length attacked with a colliquative looseness, which is the usual forerunner of death in consumptions and other chronic diseases, when all the digestive faculties are totally destroyed. At length he consulted me, and I immediately judged that it would be in vain to order any more medicines, as he had taken so many ineffectually, and therefore advised riding on horseback; directing him only to take such short journeys at first, as might best suit his weak condition. Had he not been a judicious and considerate person, he could not have been persuaded to try this kind of exercise. I entreated him to continue it every day till he found himself perfectly recovered, and to lengthen his journeys by degrees to a moderate day's journey, and not to mind either meat or drink; or the weather, but to take up with such accommodations as are to be met with upon the road, like a traveller. In short, he continued this method, till at length he rode twenty or thirty miles a day, and finding himself much mended in a few days, he was encouraged by this wonderful success to continue this course for several months, in which space of time he told me he had rode many thousand miles; so

* Considering how much more women are subject to those diseases that require riding on horseback to remove them, than men, it is to be regretted, that mode of exercise is not made a part of their education.

that at length he was not only freed from his disorder, but became strong and brisk.*

118. Farther, this kind of exercise is not more beneficial to hypochondriac than to consumptive subjects, of which distemper several of my relations have been cured by riding long journeys by my advice. For I was well assured that no other method or medicines were more effectual. Nor is riding on horseback only proper in slight indispositions, accompanied with a frequent cough and wasting, but even in confirmed consumptions, wherein the looseness is succeeded by night sweats, which are the general forerunners of death, in those who perish by this disease. In fine, how desperate soever a consumption may, or is esteemed to be (two thirds of such as die of chronic diseases being destroyed thereby) yet I solemnly affirm that riding is as effectual a remedy in this disorder, as mercury is in the lues venerea, or the bark in intermittents; provided the patient be careful to have his sheets well aired, and take sufficient long journeys. But it must be observed, that such as are past the prime of life must continue the use of riding much longer than such as are not yet arrived at that age; which I have learnt from much experience, that scarce ever failed me; and though riding on horseback does most service in consumptive cases, yet riding in a coach does sometimes produce surprising effects.†

119. But to resume our subject. This is the general method of curing this disorder, which removes the original cause, consisting in the weak texture of the blood, and is only to be used therefore when the fit is off: but when the fit comes on, accompanied with any one of the above-mentioned symptoms, and the disorder is so violent as not to admit of a respite till it can be cured by strengthening the blood and spirits, we must have im-

* The advantages of long journies in removing chronic diseases, or chronic debility, above short and daily excursions from home, are very great. The patient loses the depressing consideration upon a journey, that he is travelling for health—a dark cloud in a morning or afternoon does not delay nor stop him in his course.—New objects and companions call forth latent excitement, and the system is never permitted to relax into its former habits, by which means they are finally destroyed.

† It has been said the encomium of our author upon riding on horseback in pulmonary consumption is not sufficiently qualified. It should certainly be limited to that state of the disease in which the inflammatory action of the blood vessels has passed away, or has not taken place. The remark in the close of this section that riding should be continued for a much longer time by people in the decline of life, in order to be useful, than by young persons is correct, and founded upon an obvious reason.

mediate recourse to hysteric medicines, which by their strong fetid smell compel the disordered spirits to return to their deserted stations, being either taken inwardly, held to the nose, or outwardly applied: such are asafœtida, galbanum, castor, spirit of sal-ammoniac, and all such medicines as have a very offensive smell.*

120. And in effect whatever has a disagreeable odour, whether it be naturally fetid or rendered so by art, admirably answers this intention; and probably spirit of hartshorn, of human blood, of urine, of bones, and the like, owe their principal virtues to a fetid empyreuma which they contract in distillation, and is intimately united with them. And this is also manifest in the fumes exhaling from burnt leather, feathers, and similar parts of animals. For all the parts of animals have this property in common, that they emit a fetid vapour or fume whilst they are burning, which being condensed by distillation, is converted into those kinds of liquors, entitled volatile spirits, which obtain such properties as did not originally exist in the subjects; as being only creatures of fire: and their virtues are manifestly the same from whatever animal substance they be gained.

121. It is next to be observed, that when the fit is attended with a very violent pain of any particular part, excessive vomiting, or a looseness, besides the hysteric remedies above mentioned, we must exhibit laudanum, which is the only medicine that can quiet the symptoms, but unless the pains occasioned by vomiting be in a manner intolerable, we must be cautious of mitigating them by laudanum, or any other opiate, before proper evacuations have been made. 1. Because sometimes there is so considerable a plenitude of blood and juices in the body (especially in sanguine and robust women) as to render the frequent repetition of the most powerful opiate ineffectual. In such therefore bleeding in the arm is indispensably necessary, and a purge must be administered; and these things being rightly performed, before proceeding to the use of laudanum, the opiate, which availed not in a large quantity, will answer the end in a moderate dose. 2. Moreover I have learnt from much experience that whenever the patient has been accustomed by degrees to laudanum, and proper evacuations have not been previously made, she is compelled, by reason of the return of the pain, so soon as the virtue of the opiate vanishes, to repeat it every day for some years, gradually augmenting the dose, so that in time it becomes impossible to leave it off, notwithstanding all the digestive facul-

* The asafœtida has deservedly acquired the first rank among this class of medicines.

ties are injured, and the natural functions weakened thereby. Though I do not conceive that the use of laudanum does immediately hurt the brain, nerves, or animal faculties.

122. Therefore I judge it necessary from experience to make evacuations before exhibiting opiates: for instance, in robust and plethoric women, bleeding must be performed, and a purge administered, especially if they have had a fit lately. But if weak women, and those of a contrary constitution, be seized with such a fit and pain, who have but lately been afflicted in the same manner, it will suffice to cleanse their stomachs with three or four quarts of posset drink, and after the operation to prescribe a large dose of Venice treacle or the electuary of ORVIETANUS, and a few spoonfuls of some grateful spirituous liquor, with a few drops of liquid laudanum to be taken immediately after it.

123. But if the patient has been long afflicted with a vomiting before the physician was called; so that there is reason to apprehend that a vomit might greatly disturb the spirits, and weaken her too much, laudanum must immediately be exhibited in such a dose, and repeated with such frequency, as the continuance and urgency of the symptom demands; so that it may be able to conquer it.

124. But here two cautions are to be particularly observed. 1. When, after necessary evacuations, the use of laudanum is once begun, it must be taken in a sufficiently large dose, and so frequently repeated, that all the symptoms may be removed; only allowing such an interval between every dose, that the effect of the former may be known before another is exhibited. But we have treated largely of this matter in another place. (See inflammation of the eyes, &c.) 2. When we endeavour to cure this distemper with laudanum, we must forbear all kinds of evacuations; for the gentlest glyster of milk and sugar is enough to destroy all the good effects of the opiate, and cause a return of the pain and vomiting.

125. But though the pains above mentioned, as we have already intimated, eminently require opiates, yet a violent vomiting indicates much the largest dose of them, and their frequent repetition. For, in this case, the peristaltic motion of the stomach, being inverted, the medicine is thrown up by vomit before it can produce any effects; unless it be exhibited anew after every vomiting, and particularly in a solid form; or if it be given in a liquid one, the quantity of the vehicle must be so small, that it may barely moisten the stomach, so that it may be prevented by the smallness of the matter from throwing it up: for instance, a few drops of laudanum in a spoonful of strong cinnamon water, or the like. The patient likewise must be cautioned to compose herself immediately after taking the laudanum, and to keep her

head as steady as may be ; for nothing promotes vomiting so much as the least motion of the head ; whence the medicine, which was newly taken in, is ejected. Moreover, when the vomiting is in a manner conquered, it is proper to repeat the anodyne morning and night for some days, in order to prevent a relapse : and this should be observed in hysteric pains, or a looseness, which have been cured by an opiate.*

126. By this method the symptomatic pain and vomiting may be easily cured, which, because they often resemble other diseases, deceive the physician more than any other symptoms that require their assistance ; concerning which I will subjoin a few remarks. For instance, in that-kind of hysteric disorder just described, which resembles a nephritic paroxysm, and a genuine fit of this kind, is it not manifest that the symptoms differ very little ? For the pain attacks the same part in both disorders, and is also attended with a vomiting, and notwithstanding they proceed from very different causes, and require such different treatment, that what relieves the one, injures the other, and vice versa. For where the stone, or the gravel, corrodes the kidneys, occasions pain, and a vomiting also by consent of parts, nothing does so much service as a copious and frequent revulsion of the antecedent cause by bleeding, and dilating and relaxing the vessels through which the stone is to pass, by the frequent repetition of emollient glysters, and internals of the same kind along with diuretics, and stone-dissolving medicines. But when these symptoms do not proceed from the stone, but from a too copious derivation of the animal spirits to the kidneys (in which case only opiates are indicated, and the gentlest glyster cannot be safely injected after the first evacuations) I need not observe that a different method of procedure must needs be extremely hazardous.

127. The same may be affirmed of that hysteric disorder which resembles the bilious colic, or the iliac passion ; for when it is judged to be the bilious colic (though it is of a quite contrary nature, and occasioned by the separation of a sharp humour into the bowels through the mouths of the mesenteric arteries) which is a mistake, that a physician who is not sufficiently observant and considerate, may be easily led into, from the violent pain, and the green colour of the matter discharged upwards and downwards, the best method of cure consists in smoothing the acrimony of the humour by cooling and thickening medicines, and giving purgatives frequently, besides glysters every day, in order

* The mode of giving laudanum recommended in this section, is equally applicable to the exhibition of other medicines, also to aliment.

to free the bowels from them ; especially *mercurius dulcis*, mixed with scammony, to carry off the morbid matter entirely. But if this disease, which is taken for the bilious colic, be in reality a hysteric or hypochondriac symptom, it is clear that this method must needs be wrong and very hazardous, since experience testifies, that after the first general evacuations which are intended to carry off the corrupt humours generated by the irregular motion of the spirits, whence the virtue of the opiate may be obstructed, nothing more needs to be done than to quiet the tumultuous spirits till the symptoms vanish ; after which it is proper to administer chalybeates, or any other remedy, which may eradicate the disease, by strengthening and warming the blood. It is not my design to enumerate the many ill accidents which I have known happen to women, when this hysteric colic has been esteemed to proceed from bile ; nevertheless, I scruple not to assert that the frequent repeated evacuations, which in effect are manifestly indicated in the bilious colic, instead of relieving, increase the pain and vomiting, by promoting the disturbance of the spirits, whence these symptoms originally proceed. But at length, the disease being prolonged for some months, terminates in convulsions, from a sudden translation of the morbid cause to the brain, which soon destroys the patient ; and especially if an emetic be exhibited, after a long-continued repetition of other evacuations, on account of the green colour of the matter vomited up. In a word, I have learnt from observation, that particular caution must be had to guard against all errors in the diagnostics, by judging the common hysteric symptoms to proceed from other diseases which they frequently resemble.

128. And here I must inform you, that besides the imminent danger to which hysteric women are exposed by reason of the mistakes already enumerated, there is another, which is equally fatal to numbers thus afflicted, when this disease, though it is not naturally mortal, proves so from the bad symptoms which succeed it. To exemplify this, let us suppose that a woman of a slender and weakly constitution is happily delivered, and a few days after, the midwife, either through ignorance, or vanity, in order to shew how well she has performed her office, persuades her to rise and sit up a while ; which being complied with, the patient is immediately seized with an hysteric disorder, and, as it increases, the lochia are first diminished, and then entirely suppressed, and their unseasonable stoppage succeeded by a numerous train of symptoms, which soon prove fatal unless great skill and diligence be used to prevent it. And sometimes a delirium proceeds from the same cause, which augmenting continually, occasions convulsions, and then death ; or if the patient escapes, she loses her senses, and continues somewhat lunatic for the remainder of life. Sometimes a suppression of the lochia is fol-

lowed with a fever, which either becomes of the same kind with, or proceeds from the then reigning epidemic; moreover the same hysteric disorders that first occasioned the suppression of the lochia, rage more violently now, thus, as it were, generating themselves afresh.

129. I have long been of opinion, that scarce a tenth person of such as die in child-bed, perish either for want of sufficient strength to bring forth the child, or from the pains accompanying a difficult birth, but chiefly from rising too soon after delivery, hysteric paroxysms being hereby occasioned, which, when the lochia are stopped, cause a numerous train of fatal symptoms. Upon this account, those that follow my advice, keep in bed at least till the tenth day, in case they are of a weak constitution; and especially if they have formerly been subject to vapours.* For the rest they have in bed not only preserves them from the symptoms so often enumerated, but the continued warmth thereof revives the spirits, which are debilitated and exhausted by the labour pains, and the ordinary evacuations happening in this case, and likewise strengthens nature, and carries off those crudities that were collected during the time of pregnancy.

130. But if any one of the symptoms above enumerated happens from such an error, the curative indications are to endeavour 1. to compose the spirits disturbed by this motion, and 2. to remove the suppression of the lochia; this being the immediate cause of these symptoms. This method, however, must not be obstinately pursued; but having continued the use of those remedies for some time, which ordinarily succeed in this case, and they failing, we are to leave them off; for, as forcing medicines are not to be administered here, so neither ought we to persist in exhibiting those of a milder kind, because of the extreme weakness and lowness of spirits, which child-bed women, who are thus affected, labour under. To illustrate this by an instance: as soon as the lochia are suppressed, it is proper to put the woman to bed, and apply an hysteric plaster to the navel, and prescribe the following electuary, to be exhibited as soon as it can be made up:

Take of conserve of Roman wormwood and of rue, each an ounce; troches of myrrh, two drams; castor, saffron, volatile sal ammoniac, and asafætida, each half a dram; syrup of the five opening roots, a sufficient quantity to make them into an electuary; of which let the quantity of a large nut-

* Many diseases, as well as hysteria, are prevented by rest, silence, and occasionally by darkness for some days after parturition.

meg be taken every three hours, drinking after it four spoonfuls of the following julap:

Take of the distilled water of rue, and compound briony water, each three ounces; fine sugar, enough to sweeten it; mix them for julap.

If these medicines be given as soon as the suppression of the lochia appears, they generally effect a cure; but if the disorder continues after the whole quantity here directed is taken, we must exhibit at least a single dose of laudanum; which, though it be naturally astringent, yet, by allaying the hurry of the spirits, whereby the usual flowing of the lochia is checked, it does great service, and may sometimes remove the suppression when emmenagogues avail not: but opiates are most commodiously exhibited along with hysterics and emmenagogues: *c. gr.* fourteen drops of liquid laudanum in compound briony water; or a grain and half of solid laudanum, and half a scruple of *asaætida* made into two pills.

131. It must, however, be carefully observed, that in case the lochia do not flow afresh by giving a single dose, the opium is by no means to be repeated, as is usual and requisite in other cases, because a repetition of it here would suppress them so powerfully, that they could not afterwards be forced. If therefore after having waited some time, to be assured of its effects, we find it fail, we must return to emmenagogues, joined with hysterics, and then inject a glyster of milk and sugar. And what has been inculcated above concerning opium is equally applicable to glysters; for if the first does not bring down the lochia, nothing is to be expected from more; one being sufficient to answer this end, by inviting the humours gently downwards, whilst more may divert them another way.

132. This method having been used, with the caution above directed, it is safest, and incumbent on a prudent physician, to wait and see what effect time will produce; for the danger lessens every day, and if the patient outlives the twentieth day, she is in a manner out of danger. For when the woman has had a little respite, and recovered some degree of strength, she will be able to bear the properest method of removing that disorder, whatever it be, which proceeded from the suppression of the lochia; whereas contrariwise, by continuing to give a multitude of remedies, when the first proves ineffectual, the disease, and the hurry of the spirits occasioning it, may be increased; which deserves particular attention.

133. I was sent for not long since by a lady, who, from the cause just specified, was seized immediately after delivery with hysteric paroxysms and stoppage of the lochia. I endeavoured to

force them by the remedies above enumerated, but succeeded not, the hysteric disorder being so violent, as not to yield to medicine. Having therefore at length foreseen that she would recover if I did nothing at all, I judged that the cure might be left to time, the best physician. And my advice succeeded well till the fourteenth day; for visiting her every day, I never found her one day worse than she was the day before. But after this, her attendants, whom I had hitherto prevented from injuring her, under the appearance of assisting her, prevailed with her husband to have her immediately blooded in the foot; which being done, the hysteric paroxysms increased to that degree, as in a few hours to occasion convulsions, which soon proved fatal.

134. And, indeed, if I may speak my sentiments freely, I have long been of opinion, that I act the part of an honest man, and a good physician (not only in these diseases of child-bed women, but likewise in all acute diseases, where I cannot certainly promise that the method I make choice of will perform the cure,) as oft as I refrain entirely from medicine, when upon visiting the patient I find him no worse to-day than he was the day before, and have reason to suppose he will be no worse to-morrow than he is to-day. Whereas, if I attempt to cure the patient by a method, which I do not yet know to be effectual, he will be endangered, both by the experiment I am going to make upon him, and the disease itself; nor will he so easily escape two dangers as one: for though at present there appear no manifest sign of his amendment, yet it is certain, that the nature of an acute disease is such, that it cannot always last; and besides, every day will lessen the danger, or at least afford the physician a more certain and favourable opportunity of conquering the disease, than he had before. And this may truly be affirmed of most diseases, but chiefly of such as are peculiar to women in child-bed, wherein the least error may prove fatal, and we find it so difficult to govern that natural evacuation, from the suppression whereof the diseases we have been treating of proceed.*

135. But as hysteric diseases do not always originally rise from the primary cause, which is the natural weakness of the spirits, but sometimes from an adventitious weakness thereof; I intend, therefore, before I finish this epistle, to treat of this kind of cause, which is frequently productive of what are entitled va-

* In the two last sections our author resumes the subject of trusting the cure of diseases when they have reached a certain grade, to time and nature. One of the greatest attainments, and frequently the last in the practice of physic, is to know, when to do nothing.

pours ; and this is an immoderate flux of the menses, either in child-bed, or at other times. The first species chiefly happens soon after a difficult delivery, and is attended with a numerous train of hysteric symptoms ; but as it only comes and proves troublesome in the beginning, so it soon goes off ; being easily remedied by an incrassating diet, wherewith the following drink may be joined :

Take of plantain water and red wine, each a pint ; boil them together to the consumption of a third part, and then sweeten it with a requisite proportion of fine sugar. Give half a pint of it twice or thrice a day.

In the mean time some sufficiently weak hysteric julap may be exhibited at times, and the following composition held to the nose :

Take of galbanum and asafœtida, each two drams ; castor, a dram and half ; volatile salt of amber, half a dram ; mix them together :

Or,

Take spirit of sal ammoniac, two drams ; and let the patient smell to it often.

136. But as to an immoderate flux of the menses, which seizes women when they are not pregnant, though it happens at any time, yet it most frequently comes a little before the menses leave them ; namely, about the age of forty-five, if they begin early, or about fifty, if they begin late. In such subjects they often flow immoderately, a little before they vanish entirely, and occasion violent and frequent hysteric fits, from the large quantity of blood which is continually lost. Now though hysteric medicines are to be used in this case, both internally and externally, avoiding the stronger kind, for fear of promoting the flux, yet the chief step towards the cure consists in checking the menstrual discharge, which may be soon effected in the following manner :

137. Take away eight ounces of blood from the arm, and the next morning give the common purging potion, which must be repeated every third day for twice ; and let her take an ounce of diacodium every night at bed-time during the course of the disease.

Take of the conserve of dried roses, two ounces ; troches of Lemnian earth, a dram and half ; pomegranate bark, and

red coral prepared, each two scruples ; blood-stone, dragon's blood, and Armenian bole, each a scruple ; and as much simple syrup of coral as will make the whole into an electuary ; of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, with six spoonfuls of the following julap :

Take of the distilled waters of oak buds and plantain, each three ounces ; small cinnamon water and syrup of dried roses, each an ounce ; spirit of vitriol enough to give it an agreeable sharpness.

Take of the leaves of plantain and nettles, each a sufficient quantity : bruise them well together in a marble mortar, and press out the juice, and, lastly, clarify it. Let six spoonfuls of it be taken cold three or four times a day.

After the first purge, let the following plaster be applied to the region of the loins :

Take of diapalma and rupture plaster, each equal parts ; melt them down together, and spread the mass on leather.

138. A cooling and thickening diet must be prescribed, only it will be convenient to allow the patient a glass of claret once or twice a day ; which though it be not altogether so proper, inasmuch as it is apt to raise an ebullition, may be indulged in order to repair the strength. And this method is not only very serviceable in these disorders of the sex, but is equally useful where there is danger of a miscarriage ; only in this case the purgatives and juices must be omitted.

139. There is also another cause of hysteric disorders, though it happens more rarely, and this is a bearing down of the womb after a difficult birth, attended with abundance of hysteric symptoms, which however may be easily and speedily cured by the following method :

Take of oak bark, two ounces ; boil it in two quarts of spring water to one, and towards the end of the operation add of pomegranate peel bruised, one ounce ; red rose leaves and balustines, each two handfuls ; and lastly, half a pint of red wine : strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning, two hours before the patient rises, and at night after she is in bed, continuing the use of it till the disorder vanishes.

140. And now, worthy Sir, having communicated all the ob-

servations, I have hitherto made, relating to the history and cure of the hysteric disease, I have no more to add, but to entreat you to excuse any inaccuracy I may have committed in the description thereof, and likewise to accept this short dissertation, which was wrote expressly to return you thanks for your approbation of my other works. And, in reality, I so rarely meet with such treatment, that I must needs conclude, either that I am void of merit, or that the candid and ingenuous part of mankind, who are formed with so excellent a temper of mind as to be no strangers to gratitude, make a very small part of the whole. But whatever opinion the world may form of me, I will still continue to investigate and improve the method of curing diseases to the best of my ability, and to instruct such practitioners as have less experience than myself. For, upon deliberate and equitable reflection, I find it is better to assist mankind than to be commended by them, and highly conducive to tranquillity of mind; popular applause being lighter than a feather, or a bubble, and less substantial than a dream. But if the wealth that is gained by such an eminent name should by some be thought to be of a more solid kind, I do not at all envy them the enjoyment of what they have acquired, but would have them remember that the lowest class of mechanics do sometimes get and leave greater fortunes to their children; and yet in this respect they are no way superior to brutes, who make the best provision they can for themselves and their issue. For if we except such good actions as proceed from choice and a virtuous disposition (which brutes are naturally incapable of,) they are manifestly upon the footing of an equality with these, and all other men, who have not the welfare of mankind at heart.—Pray give my service to our learned friend, Mr. Kendrick, who informed me of your affection for me, which I will endeavour to return in the best manner I am able, who am,

Worthy Sir,

Your most obliged

and affectionate

humble servant,

THO. SYDENHAM.

London, }
Jan. 20, 1681-2 }

A
TREATISE
OF THE
GOUT AND DROPSY.

THE DEDICATORY EPISTLE OF THE AUTHOR, TO DR. THOMAS
SHORT, FELLOW OF THE COLLEGE OF PHYSICIANS.

WORTHY SIR,

I PRESENT you here with a short treatise of the gout and dropsy, instead of a larger work, which I had thoughts of writing, namely, the history of those chronic distempers especially, which I have often met with in my practice. But as my immoderate application to this work occasioned the severest fit of the gout I ever had, it was a caution to me to desist from my undertaking, though with reluctance, consult my health, and rest satisfied with having finished my essay on these two diseases ; for the gout constantly returned, as oft as I attempted to go on with the work.

Be pleased, therefore, to accept this performance with all its faults, which is addressed to you for two reasons chiefly : First, because you have readily acknowledged and asserted the usefulness of the observations I formerly published, (which some persons contemn) both before me and others ; and, secondly, because in the mutual intercourse we have had in consultations, I have found your genius well adapted to the practice of physic. For though you excel in all kinds of literature, yet nature has rather intended you for a judicious practitioner, than an idle theorist ; practice and speculation differing as much from each other, as trifles and matters of the greatest importance ; so that if my observation be right, they seldom meet in one and the same person.

Your penetration, joined with a large and extensive practice, which have furnished you with an opportunity of making experiments, have placed you at the head of the faculty, and your assiduity will be a means of preserving the esteem you have acquired. If the following sheets be not disapproved by you (to whom they are inscribed) and a few worthy men, my friends, I shall little regard the censure of others, who are angry with me, purely because I dissent from their opinions, relating to diseases and the methods of cure. And this I cannot well help, because my natural disposition inclines me to spend that time in thinking, which others employ in reading; and I am more solicitous, that all I deliver should be agreeable to truth, than to the sentiments of others; as setting lightly by public applause. And, indeed, provided I discharge the duty of a good citizen, and serve the public, to the prejudice of my private interest, what matters it if I gain no reputation thereby? For, upon due consideration, my endeavouring to secure a character, who am now advanced in years, will, in a little time, be like providing for a non-existence. For what will avail me after my decease, that the eight letters which compose my name, will be pronounced by those, who can no more frame an idea of me in their minds, than I am now able to conceive what kind of persons those will be, who can have no knowledge of their immediate predecessors, and will perhaps have a different language, and other customs, according to the vicissitudes and fluctuating condition of human affairs? To what purpose, therefore, should I concern myself about the opinions of others? - For if I have improved the diagnostic and curative parts of medicine, and thereby entitled myself to some praise, I cannot long enjoy it; and, on the contrary, if my writings are not much liked by some persons, I scarce think I shall trouble the public with more, by reason of my ill state of health. In reality, my hand trembled so, that I was not able to write this short treatise I now publish, but was assisted in this particular (which I gratefully acknowledge) by Mr. John Drake, bachelor in physic, of St. John's College in Cambridge, whose good nature and integrity render him an excellent friend; and whose natural and acquired endowments will make him highly useful to mankind, when he pleases to practise an art which he so well understands. I conclude, with asking your pardon for the trouble I may have given you in the performance of my duty, and desiring you to believe, that it entirely proceeds from the regard and esteem I bear you, who am,

Sir,

Your most obedient servant,

THO. SYDENHAM.

London, }
May 21, 1683. }

A TREATISE OF THE GOUT.

1. THERE is no doubt, but men will conclude, either that the nature of the disease, which is my present subject, is in a manner incomprehensible, or that I, who have been afflicted with it for these thirty-four years past, am a person of very slender abilities, inasmuch as my observations, concerning this distemper and the cure thereof, fall short of answering their expectations. But notwithstanding this, I will faithfully deliver the remarks I have hitherto made, concerning the difficulties and intricacies respectively occurring in the history of the disease, and the method of cure ; leaving the illustration thereof to time, the discoverer of the truth.

2. The gout generally attacks those aged persons, who have spent most part of their lives in ease, voluptuousness, high living, and too free an use of wine, and other spirituous liquors, and at length, by reason of the common inability to motion in old age, entirely left off those exercises, which young persons commonly use. And, farther, such as are liable to this disease have large heads, and are generally of a plethoric, moist, and lax habit of body, and withal of a strong and vigorous constitution, and possessed of the best stamina vitæ.

3. The gout, however, does not only seize the gross and corpulent, but sometimes, though less frequently, attacks lean and slender persons: neither does it always wait till old age comes, but sometimes attacks such as are in the prime of life, when they have received the seeds of it from gouty parents, or have otherwise occasioned it by an over-early use of venery, or the leaving off such exercises as they formerly indulged to a great degree ; and who besides have had a voracious appetite, and used spirituous liquors immoderately, and afterwards quitted them, of a sudden, for those of a thin and cooling kind.

4. When it seizes a person far advanced in years, for the first time, it never has such stated periods, nor proves so violent, as when it attacks a younger person, because 1. he generally perishes before the disease, accompanied with its natural symptoms, comes to its height; and 2. because the natural heat and vigour of the body being abated, it cannot be so constantly and powerfully thrown off upon the joints. But when it comes on sooner, though it may not yet fix on one part, nor prove so severe, but affect the patient occasionally, keeping no certain period, giving only a little pain for a few days, and coming on and going off without any order ; yet it increases gradually, and goes on regularly, both with respect to the time of its coming, and the con-

tinuance of the fit, and rages more violently in its progress, than in its beginning.

5. I will first treat of the regular gout, and next of the irregular one; whether occasioned by an unadvised use of improper remedies, or the weakness of the subject. The regular gout generally seizes in the following manner: it comes on a sudden towards the close of January, or the beginning of February, giving scarce any sign of its approach, except that the patient has been afflicted, for some weeks before, with a bad digestion, crudities of the stomach, and much flatulency and heaviness, that gradually increase till the fit at length begins; which however is preceded, for a few days, by a numbness of the thighs, and a sort of descent of flatulencies through the fleshy parts thereof, along with convulsive motions; and the day preceding the fit the appetite is sharp, but preternatural. The patient goes to bed, and sleeps quietly, till about two in the morning, when he is awakened by a pain, which usually seizes the great toe, but sometimes the heel, the calf of the leg, or the ankle. The pain resembles that of a dislocated bone, and is attended with a sensation, as if water just warm were poured upon the membranes of the part affected; and these symptoms are immediately succeeded by a chillness, shivering, and a slight fever. The chillness and shivering abate in proportion as the pain increases, which is mild in the beginning, but grows gradually more violent every hour, and comes to its height towards evening, adapting itself to the numerous bones of the tarsus and metatarsus, the ligaments whereof it affects; sometimes resembling a tension or laceration of those ligaments, sometimes the gnawing of a dog, and sometimes a weight and coarctation, or contraction, of the membranes of the parts affected, which become so exquisitely painful, as not to endure the weight of the clothes, nor the shaking of the room from a person's walking briskly therein. And hence the night is not only passed in pain, but likewise with a restless removal of the part affected from one place to another, and a continual change of its posture. Nor does the perpetual restlessness of the whole body, which always accompanies the fit, and especially in the beginning, fall short of the agitation and pain of the gouty limb. Hence numberless fruitless endeavours are used to ease the pain, by continually changing the situation of the body and the part affected, which, notwithstanding, abates not till two or three in the morning, that is, till after twenty-four hours from the first approach of the fit; when the patient is suddenly relieved, by means of a moderate digestion, and some dissipation of the peccant matter, though he falsely judges the case to proceed from the last position of the part affected. And being now in a breathing sweat he falls asleep, and upon waking finds the pain much abated, and the part affected to be then swelled; whereas, before

only a remarkable swelling of the veins thereof appeared, as is usual in all gouty fits.

The next day, and perhaps two or three days afterwards, if the gouty matter be copious, the part affected will be somewhat pained, and the pain increase towards evening, and remit about break of day. In a few days it seizes the other foot in the same manner; and if the pain be violent in this, and that which was first seized be quite easy, the weakness thereof soon vanishes, and it becomes as strong and healthy as if it had never been indisposed: nevertheless, the gout affects the foot just seized, as it did the former, both in respect of the vehemence and duration of the pain; and sometimes, when there is so copious a peccant matter in the beginning of the fit, that one foot is unable to contain it, it affects both at the same time with equal violence; but it generally attacks the feet successively, as above remarked. When it has seized both feet the following fits are irregular, both with respect to the time of seizure and their continuance, but the pain always increases in the evening, and remits in the morning; and what we call a fit of the gout, which goes off sooner or later, according to the age of the patient, is made up of a number of these small fits. For when this disease lasts two or three months, it is not to be esteemed one continued fit, but rather a series or assemblage of little fits, the last of which prove milder and shorter, till the peccant matter being at length quite expelled, the patient recovers; which, in strong constitutions, and such as seldom have the gout, often happens in fourteen days; and in the aged, and those that have frequent returns of the disease, in two months; but in such as are more debilitated, either with age, or the long duration of the distemper, it does not go off till summer advances, which drives it away.

During the first fourteen days the urine is high-coloured, and after separation lets fall a kind of red gravelly sediment, and not above a third part of the liquids taken in is voided by urine, and the body is generally costive during this time. The fit is accompanied throughout with loss of appetite, chillness of the whole body towards the evening, and a heaviness and uneasiness even of those parts that are not affected by the disease. When the fit is going off, a violent itching seizes the foot, especially between the toes, whence the skin peels off as if the patient had taken poison. The disease being over, the appetite and strength return sooner or later, according as the immediately preceding fit hath been more or less severe, and in consequence of this the following fit comes on a shorter or longer space of time; for if the last fit proves very violent, the next will not attack the patient till the same season of the year returns again.

6. In this manner does the regular gout, accompanied with its genuine and proper symptoms, appear; but when it is exaspe-

rated, either by wrong management or long continuance, so that the substance of the body is in a manner changed into supplies for the disease, and nature unable to expel it according to her usual way, the symptoms differ considerably from those just described. For, whereas the pain hitherto only affected the feet (which are the genuine seat of the morbid matter, which, whenever it attacks any other part, clearly proves either that the course of the disease is obstructed, or the strength gradually impaired,) it now seizes the hands, wrists, elbows, knees, and other parts, no less severely than it did the feet before; for sometimes it renders one or more of the fingers crooked, and motionless by degrees, and at length forms stony concretions in the ligaments of the joints, which destroying both the scarf-skin and skin of the joints, stones not unlike chalk, or crabs eyes, come in sight, and may be picked out with a needle. Sometimes the morbid matter is thrown upon the elbows, and occasions a whitish swelling, almost as large as an egg, which becomes gradually inflamed and red. Sometimes it affects the thigh, which seems to sustain a great weight, yet without much pain; but thence gaining the knee, it attacks that part more violently, depriving it of motion, so as to nail it in a manner to the same place in bed. And when it is necessary to move the patient, either on account of the restlessness of the whole body, which is so frequent in this disease, or some other urgent cause, it ought to be done with great caution, as the least contrary motion, or shock, may perhaps give pain, which is only tolerable for this reason, because it soon goes off. And, indeed, this moving of the patient, which should be performed with such care and tenderness by the assistants, is no inconsiderable part of the evils which attend the gout; for the pain is not very violent the paroxysm throughout, in case the part affected be kept quiet.

7. As the gout formerly did not usually come on till the decline of winter, and went off in two or three months; in the present case, it continues all the year, excepting two or three of the warmest summer months. And it is farther to be observed, that as the cardinal or general fit continues longer now than it did heretofore, so likewise those particular fits, of which the general one is made up, rage a longer time; for, whereas one of these did not last above a day or two before, it now, wherever it fixes, does not go off till the fourteenth day, especially if the feet or knees be affected thereby. To this may be added, that the patient on the first or second day after its coming, besides the pain, is afflicted with sickness, and a total loss of appetite.

8. In the last place, before the disease came to such a height, the patient not only enjoyed longer intervals between the fits, but likewise had no pains in the limbs, and the other parts of the body, all the bodily functions being duly performed; whereas now

his limbs, during the intermission of the disease, are so contracted and disabled, that though he can stand, and perhaps walk a little, yet it is very slowly, and with great trouble and lameness, so that he scarce seems to move at all; and if he endeavours to walk beyond his strength, in order to recover the use of his feet, the stronger they grow, and the less liable they are to pain upon this account, so much more does the morbid matter (not wholly dissipated during this interval) threaten the bowels, to the endangering the patient, as it cannot be so freely thrown upon the feet, which in this state of the disease are never quite free from pain.

9. Moreover the patient is likewise afflicted with several other symptoms; as a pain in the hemorrhoidal veins, nauseous eructations, not unlike the taste of the aliment last taken in, corrupting in the stomach, happening always after eating any thing of difficult digestion, or no more than is proper for a healthy person, together with a loss of appetite, and a debility of the whole body, for want of spirits; which renders his life melancholy and uncomfortable. The urine, which was before high-coloured, especially in the fits, and voided in a small quantity, now resembles that which is evacuated in a diabetes, both in colour and quantity; and the back and other parts itch much towards bed-time.

10. And when the disease is become inveterate, after yawning, especially in the morning, the ligaments of the bones of the metatarsus are violently stretched, and seem to be squeezed with great force by a strong hand. And sometimes, though no yawning has preceded, when the patient is disposing himself to sleep, he feels a blow of a sudden, as if the metatarsus were breaking in pieces by a large stick, so that he wakes crying out with pain. The tendons of the muscles of the tibiæ are sometimes seized with so sharp and violent a convulsion, or cramp, that if the pain it occasions were to last only a short time, it could not be borne with patience.

11. But after many racking pains, the following paroxysms become less painful, as an earnest of the delivery which approaching death is about to give, nature being in part oppressed by the quantity of the morbid matter, and in part by old age, so as not to be able to propel it constantly and vigorously to the extremities; but, instead of the usual external pain, a certain sickness, a pain in the belly, a spontaneous lassitude, and sometimes a tendency to a diarrhœa, succeed. When these symptoms are violent, they ease the pain of the limbs, which returns upon their going off; and the paroxysms are much prolonged by this alternate succession of pain and sickness. For it is to be observed, that when the disease has continued several years the pain diminishes gradually every fit, and the patient at length sinks rather

from the sickness than the pain ; which in these fits, though it be longer, is not near so violent as that which he usually suffered, when his strength was little impaired. But, nevertheless, this violence of the disease was ordinarily recompensed by longer intervals between the fits, and the good state of health the patient enjoyed during the intermission. In effect, pain in this disease is the disagreeable remedy of nature, and the more violent it proves, the sooner the fit terminates, and the longer and more perfect is the intermission ; and so on the contrary.

12. But besides the above-mentioned symptoms, viz. the pain, lameness, inability to motion of the parts affected, the sickness, and other symptoms above enumerated, the gout breeds the stone in the kidneys in many subjects, either 1. because the patient is obliged to lie long on his back, or 2. because the secretory organs have ceased performing their proper functions ; or else 3. because the stone is formed from a part of the same morbid matter ; which, however, I do not pretend to determine. But from what cause soever this disease proceeds, the patient is sometimes at a loss to know whether the stone or the gout be most severe, And sometimes a suppression of urine, caused by the stone's sticking in the urinary passage, destroys him, without waiting for the slow advances of its concomitant the gout.

13: The patient is not only reduced to this helpless condition, but to complete his misery, his mind, during the fit, sympathizes with his body, so that it is not easy to determine which of the two is most afflicted. For every paroxysm may be as justly denominated a fit of anger, as a fit of the gout ; the rational faculties being so enervated by the weakness of the body, as to be disordered upon every trifling occasion ; whence the patient becomes as troublesome to others as he is to himself. Moreover, he is equally subject to the rest of the passions, as fear, anxiety, and the like, which also torment him till the declension of the disease, when the mind is restored to health along with the body, having recovered its former tranquillity.

14. To conclude : The viscera in time are so much injured, from the stagnation of the morbid matter therein, that the organs of secretion no longer perform their functions, whence the blood, overcharged with vitiated humours, stagnates, and the gouty matter ceases to be thrown upon the extremities as formerly, so that at length death frees him from his misery.

15. But what is a consolation to me, and may be so to other gouty persons of small fortunes and slender abilities, is, that kings, princes, generals, admirals, philosophers, and several other great men, have thus lived and died. In short, it may, in a more especial manner, be affirmed of this disease, that it destroys more rich than poor persons, and more wise men than fools ; which seems to demonstrate the justice and strict impar-

tiality of Providence, who abundantly supplies those that want some of the conveniences of life, with other advantages, and tempers its profusion to others with equal mixture of evil ; so that it appears to be universally and absolutely decreed, that no man shall enjoy unmixed happiness or misery, but experience both : and this mixture of good and evil, so adapted to our weakness and perishable condition, is perhaps admirably suited to the present state.

16. The gout seldom attacks women, and then only the aged, or such as are of a masculine habit of body ; for lean and emaciated women, who, in their youth or riper age, are seized with symptoms not unlike the gout, receive them from hysteric disorders or some preceding rheumatism, the morbid matter whereof was not sufficiently carried off in the beginning,* nor have I hitherto found children, or very young persons, affected with the true gout. Yet I have known some who have felt some slight touches of it before they came to that age ; but they were such as were begot by gouty parents. And let this suffice for the history of this disease.

17. Upon a thorough attention to the various symptoms of this disease, I judge it to proceed from a weakened concoction both of the solids and fluids ; for such as are subject to it, being either worn out by old age, or having hastened this period of life by their debaucheries, labour under an universal paucity of animal spirits, occasioned by the immoderate use of the vigorous function in the heat of youth. For instance, by a too early or excessive use of venery, by the vast and continual pains they take to gratify their passions, and the like : whereto must be added the quitting of such bodily exercises of a sudden as they had formerly used (whether through age or idleness) which served to invigorate the blood, and strengthen the tone of the solids ; whence the strength decays, and the concoctions are no longer duly performed, but on the contrary the excrementitious part of the juices, which was formerly expelled by means of such exercise, lies concealed in the vessels to feed the disease. And sometimes the disease has been increased by a long continued application to some serious study ; whereby the firmer and more

* The editor dissents from this opinion of our author. Women are more subject to the gout than men. The hysteria is the same disease in the nerves and muscles, that gout is in the ligaments, blood vessels, and other parts of the body. Head ach, stomach complaints, and colic, are all different forms of what is called gout, and these affect women much more frequently than men. We have banished specific morbid matters as the causes of hysteria and gout. Why should we supply their place by specific morbid actions?

volatile spirits are called off from their proper function of assisting the concoctions.

18. Again, such as are subject to the gout, besides having a voracious appetite in general, chiefly covet all kind of aliment that is hard of digestion, which, when they have eat as plentifully as they ordinarily did when they used exercise, they cannot digest. But this way of living does not occasion the gout so often as the excessive use of wine, which destroys the ferments designed for various concoctions, hurts the concoctions themselves, and overcomes and dissipates the natural spirits, by reason of the abundance of adventitious vapours. Now the spirits, which are the instruments of concoction, being weakened, and the blood overburdened with juices, at one and the same time, all the concoctions must needs be depraved, whilst all the viscera are so oppressed; whence the spirits that have long been in a declining state, are now quite exhausted. For if this disease proceeded only from a weakness of the spirits, it would easily affect children, women, and persons debilitated by a tedious illness: whereas the strongest and most robust constitutions are chiefly subject to it, but not before abundance of humours are collected in the body through the decay and waste of the natural heat and spirits, which in conjunction destroy the vitiated concoctions.

19. Again, as each of the causes we have enumerated promote indigestion, so most of them contribute in some measure to introduce a laxity of the habit and muscles of the body; which makes way for the reception of crude and indigested juices, as often as they are thrown upon the external parts. For when by lying long in the blood they are increased in bulk, and have gained an ill quality, they at length acquire a putrefying heat, and nature being no longer able to subdue them, become a species, and fall upon the joints, and by their heat and acrimony occasion exquisite pain in the ligaments and membranes that cover the bones; which being weakened and relaxed, either by age, or luxury and intemperance, easily admit them. But this translation of the humours occasioning the gout, and forming a gouty fit, happens sooner or later, according as these humours are occasionally put in motion.*

20. I proceed now to the cure; in treating of which I shall first take notice of such things as are to be omitted. Now, in this disease, if regard be had to the humours, and the indigestion occasioning them, it should seem at first view that the curative indicature should principally tend 1. to evacuate humours al-

* Our author means the same thing by laxity in this section, that modern physicians mean by debility, and very properly supposes it to be the predisposing cause of gout.

ready generated, and 2. to strengthen the concoction, or digestive powers, so as to prevent the accumulation of other humours, these being the usual indications to be answered in most other humoral diseases. But nevertheless in the gout, nature seems to have the prerogative to expel the peccant matter according to its own method, and throw it off from the joints, there to be carried off by insensible perspiration. Now there are only three ways proposed of expelling the morbid matter of the gout, namely, 1. bleeding, 2. purging, and 3. sweating: but none of these will ever answer the end.

21. 1. Though bleeding seems to bid fair for evacuating the humours immediately to be translated, as well as those already fixed in the joints; yet it manifestly clashes with that indication which the antecedent cause, indigestion, arising from a depravity or paucity of the spirits, demands, which bleeding farther weakens and diminishes; and for this reason it is not to be used either by way of preventing an approaching, or easing a present fit, especially in the aged: for though the blood that is taken away generally resembles pleuritic or rheumatic blood, yet bleeding is found to do as much mischief in this disease, as it does good in those. And bleeding in the interval, though long after the paroxysm, is apt to occasion a fresh fit, by the agitation of the blood and juices, which may continue longer, and be attended with more violent symptoms than the former, the strength of the blood being impaired thereby, by means whereof the morbid matter should have been powerfully and constantly expelled. This inconvenience always happens from bleeding in the beginning of the fit; and if it be used immediately after the fit, there is great danger (on account of the present weakness of the blood, and its not having recovered its former strength, diminished by the disease) of debilitating nature so much by the unseasonable use thereof, as to make way for a dropsy. Nevertheless, if the patient be young and over-heated by hard drinking, a vein may be opened in the beginning of the fit: but if bleeding be always used in the succeeding paroxysms, it would render the gout inveterate, even in youth, and cause it to spread more universally in a few years than it otherwise would have done in many.*

* The objections to moderate bleeding in the gout made by our author have been refuted by the success of the practice in many hundred instances. It shortens the fits, and lessens their frequent recurrence, and thereby saves the constitution. Could patients be prevailed upon to avoid the causes which induce the gout after the cure of a fit of it, by bleeding when it is indicated, the disease would probably be as certainly eradicated from the system as we see a pleurisy or rheumatism, by the use of the same remedy.

22. 2. With respect to vomiting and purging, it should be noted, that as it is a fixt law of nature,* and interwoven with the essence of this disease, that the morbid matter thereof ought always to be translated to the joints, emetics or cathartics will only invite the gouty matter back into the blood, which was thrown off by nature upon the extremities; and hence what ought to be thrown upon the joints, hurries perhaps to some of the viscera, and so endangers the life of the patient, who was quite safe before. And this has often been observed to prove fatal to those who have ordinarily had recourse to purgatives by way of prevention, or which is worse, to ease the pain in the fit; for when nature is prevented from pursuing her usual, safest, and best method of translating the morbid matter to the joints, and the humours are forced inwards upon the bowels, then, instead of pain in the joints, which is either slight or none at all, the patient is almost destroyed by sickness of stomach, gripings, fainting, and a numerous train of irregular symptoms.

23. For my own part, I am abundantly convinced, from much experience, that purging, either with mild or strong cathartics, of that kind which are given to purge the joints, proves very prejudicial, whether it be used in the fit to lessen the morbid matter, or in its declension to carry off the remainder, or in a perfect intermission or healthy state, to prevent an approaching fit. For I have learnt at my own peril, as well as that of others, that purgatives exhibited at any of these times, have, instead of doing service, hastened the mischief they were intended to prevent.

1. Purging, therefore, during the fit, by disturbing nature when she is separating the gouty matter and throwing it off from the joints, does sometimes eminently disturb the spirits, which renders the fit more violent, and likewise much endangers the life of the patient. 2. Purgatives administered at the end of a fit, instead of expelling the remains of the disease, occasion a fresh fit

* Our author is here seduced by his belief in concoction, and in the salutary operations of nature. As well might we wait for the formation of an abscess, and the discharge of pus from the lungs, in order to cure a pleurisy, as wait for the translation of the morbid actions of the system to the joints in order to cure the gout. It is true, vomits and purges are often improper remedies in the gout, from the stomach and bowels being predisposed to become its seats, for which reason bleeding should be preferred to them, where the pulse is full or tense, as being a more safe and agreeable remedy. The purges employed during a fit of the gout should be of the most lenient kind. Sulphur has been found to be safe and useful for that purpose. In the intervals of the fits of gout, Warner's purging elixir is an excellent medicine to keep the bowels gently open.

as severe as the former ; and thus the patient being deceived by fruitless hopes, brings those evils upon himself which he had escaped if the humours had not been exasperated afresh. And this inconvenience I myself often experienced, after having had recourse to medicine to expel what I esteem the remains of the distemper. 3. As to purging at certain times in the intervals by way of prevention, though it must be owned that there is not so much danger of occasioning a fresh fit, as in the instance just mentioned, the patient in that case not being perfectly recovered ; yet even at this time it is productive of a fit, for the reasons above specified, and though perhaps it may not come on immediately, the disease nevertheless will not go off entirely by taking any purge constantly at proper intervals. For I have known some gouty persons, who, to recover their health, not only purged spring and autumn, but monthly, and even weekly, and yet none of them escaped the gout, which afflicted them more severely afterwards, and was accompanied with more violent symptoms, than if they had totally forbore medicine. For though such purging might carry off a part of the gouty matter, yet as it does not at all contribute to strengthen concoction, but rather weakens it, and injures nature afresh, it only strikes at one cause, and is by no means adequate to the cure of the distemper.

24. To these observations must be added, that the same paucity of spirits, which hurts the concoctions in gouty subjects, renders their spirits weak and languid, so that they are soon disturbed by any cause which considerably hurries either the body or mind, and consequently are very volatile and dissipable, as they frequently are in hysteric and hypochondriac patients. And from this tendency of the spirits to irregular motions, it happens that the gout usually follows the slightest evacuation. For the tone of the parts being destroyed, which the firmness of the spirits, so long as they continue strong, preserves unrelaxed and healthy, the peccant matter moves without interruption ; and from this mischief done to the body a fit arises in a short time.

25. But notwithstanding this method is so very pernicious, yet there have been empirics, who have acquired a great character by cunningly concealing the cathartic they use in this case. For it must be noted, that whilst the medicine operates, the patient feels no pain at all, or but a slight one ; and if a course of purgatives can be continued for some days, without the intervention of the recent fit, the present fit will soon go off. But the patient will suffer greatly afterwards, by the sudden tumult occasioned by this agitation of the humours.

26. 3. Finally, the carrying off the peccant matter by sweat is manifestly prejudicial, though in a less degree than the above-mentioned evacuations ; for though it does not repel the morbid matter to the viscera, but contrariwise propels it into the habit,

it is notwithstanding detrimental for these reasons. 1. Because during the interval of the fit it forces the humours, which are yet crude, and fitted for a due separation, upon the limbs; and thus occasions a fit before its time, and in opposition to nature. 2. The promoting sweat in the fit throws and fixes the gouty matter too powerfully upon the part affected, at the same time occasioning intolerable pain; and if there be a greater quantity thereof than can be received by the part affected, it immediately throws it upon some other parts, and thus raises a violent ebullition of the blood and other juices: and if the body abounds considerably with a serous matter generative of the gout, an apoplexy is hereby endangered.

27. Hence, therefore, it is a very dangerous practice, both in this and other diseases wherein a sweat is raised by art, to evacuate the morbid matter, and it does not flow spontaneously, to force it out too violently, and beyond that degree of concoction, which the humours to be carried off have spontaneously acquired. The excellent aphorism of Hippocrates intimating that concocted, and not crude matters, are to be evacuated, relates to sweating as well as purging; as appears manifestly from that sweat which ordinarily terminates the paroxysms of intermittents; which, provided it be moderate, and proportioned to the quantity of febrile matter concocted by the preceding fit, relieves the patient considerably: but if it be promoted beyond the limits prescribed by nature, by keeping the patient constantly in bed, a continued fever thence arises, and instead of extinguishing the former heat, a new one is kindled. So in the gout, the gentle breathing sweats that generally come on spontaneously in the morning after each of the small fits, of which, as I have before observed, the cardinal fit is compounded, eases the pain and restlessness, which tormented the patient so much during the night; but contrariwise, if this gentle moisture, which is naturally of a short duration, be violently forced, and continued longer than the quantity of the morbid matter concocted by the preceding fit requires, the disease is thereby increased. In this, therefore, and all other diseases that I have met with, excepting only the plague, it is nature's province, more than the physician's, to excite sweat, as we cannot possibly learn how much matter is already prepared for such a separation, nor consequently what method is to be taken to promote sweat.*

* There is much good sense in the latter part of this section. With all that has been said in favour of sweats in febrile diseases, they are seldom salutary, after the fever is completely formed, except when they are spontaneous, and they are so only when the system is reduced, or elevated to what has lately been called the sweating point.

28. Since then it evidently appears from what has been delivered, that it is both a fruitless and a pernicious attempt to endeavour to cure the gout by evacuating medicines, we are next to inquire what other purpose the curative indications are to be directed to answer. And from a thorough attention to all the symptoms above enumerated we learn, that regard must be had to two causes principally in the cure of this disease. 1. The antecedent, or primary cause, or the indigestion of the humours, proceeding from a defect of the natural heat and spirits: 2. the containing, or immediate cause, of the heat and effervescence of these humours, after the putrefaction and sharpness they have acquired by continuing too long in the body, occasioned by the indigestion above mentioned. Now these causes differ so much from one another, that the medicines which do service in the one, prove pernicious in the other; and hence it is that this disease is so difficult of cure. For at the same time that we endeavour to cure the indigestion by warm medicines, we run the risque on the other hand of increasing the heat of the humours: and contrariwise, whilst we strive to mitigate the heat and acrimony of the humours by a cooling regimen, or medicines, will bring on indigestion, the natural heat being already impaired. But here, by the containing cause, I do not only mean that which is actually deposited in the joints, and forms the present fit, but that also which still lies concealed in the blood, and is not yet prepared for separation. For all the morbid matter is seldom so entirely expelled by the fit, how lasting and severe soever it be, as to leave no remains of it in the body, after the fit is gone off; so that of course regard is to be had to this cause both in the fit, and during the intervals. But as the expulsion of the containing cause is entirely the business of nature, and to be performed according to her own method, and since nothing in the mean time can be done to cool the hot and sharp humours, without injuring the digestive powers, unless it be by avoiding a hot regimen and medicines, which inflame the humours; so doubtless the chief curative intention is, after the digestion is removed, to strengthen the digestive powers, which I shall now treat of, but in such manner, however, that I may in the course of this dissertation, as occasion offers, likewise mention those remedies which tend to mitigate the heat of the humours, and blunt their acrimony.

29. Whatever remedies therefore assist nature to perform her functions duly, either 1. by strengthening the stomach, so that

The reader will please to take notice of the unity of gout with fever in its nightly exacerbations taken notice of in this, and in a former section.

the aliment may be well digested, or 2. the blood, that it may sufficiently assimilate the chyle received into the mass, or 3. the solids, so as to enable them the better to change the juices designed for their nutrition and growth into their proper substance, and 4. lastly, whatever preserves the secretory vessels, and the emunctories in such a state that the excrementitious parts of the whole system may be carried off in due time and order. These, and all medicines of the same kind, contribute towards answering this intention, and are properly entitled digestives, whether they be of the medical or dietetic kind, exercise, or any other of those things, which are called the six non-naturals.

30. Such medicines in general are those which are moderately heating, bitter, or of a mild pungent taste, inasmuch as they agree well with the stomach, purify the blood, and strengthen the other parts. For instance, the roots of angelica and elecampane, and leaves of wormwood, the lesser centaury, germander, ground pine, and the like; to which may be added, such as are commonly called antiscorbutics, as the roots of horse-radish, the leaves of garden scurvy-grass, water-cresses, and the like. But these acrid and pungent herbs, how agreeable and beneficial soever they may be to the stomach, yet as they agitate the morbid matter, which has long been generated, and increase the heat, are to be used more sparingly than those which by their mild heat and bitterness both strengthen the stomach and mend the blood.

31. And in my opinion, a skilful mixture of some kinds of them answers the end of digesting the humours better than any single simple of the same class. For though, whenever we have occasion for the specific virtue of any medicine, it be a true axiom, that the more simple it is, the better it is for the purpose, yet when a cure is intended to be made by answering a particular indication, every ingredient contributes something towards curing the disease; and in this case, the more simples the medicine contains, the more powerfully it will operate. For this reason various forms of medicines may be elegantly compounded of the ingredients above enumerated, and the rest of the like kind. I give the preference to an electuary made after the manner of Venice treacle, because the fermentation of the simples together improves their virtues and produces a third substance, which possesses greater virtues in the mixture, than any single ingredient in the same quality. But I freely leave the choice of such ingredients, and the form in which they are to be given, to the judicious physician; for I never thought myself obliged to write what they term receipts, but rather to note the true curative indications; the non-observation of which caution has given empirics a handle to cry themselves up for the best physicians, as I have elsewhere observed. However, for the benefit of young

physicians, I will communicate the medicine I generally use, which is compounded in the following manner.*

Take of the roots of angelica, sweet flag, master wort, elecampane, the leaves of wormwood, the lesser centaury, white hore-hound, germander, ground pine, scordium, common calamint, feverfew, wild saxifrage, St. John's wort, golden rod, thyme, mint, sage, rue, holy thistle, penny royal, southernwood, the flowers of camomile, tansey, lily of the valley, English saffron, the seeds of treacle, mustard, garden scurvy grass, carraway and juniper berries, of each a sufficient quantity. Let the herbs, flowers, and roots be gathered when they are in the utmost perfection; dry them in paper bags till they are reducible into fine powder. To six ounces of each, well mixed together, add enough of clarified honey and canary to make the whole into an electuary, of which let the patient take two drams morning and night.

Or for want of this, let the following be used :

Take of the conserve of garden scurvy grass, an ounce and half; Roman wormwood and orange peel, of each an ounce; candied angelica and nutmeg, of each half an ounce; Venice treacle, three drams; compound powder of wake robin, two drams; and with a sufficient quantity of the syrup of oranges, mix them up into an electuary: let two drams of it be taken twice a day, with five or six spoonfuls of the following distilled water after every dose :

Take of the roots of horse radish sliced, three ounces; garden scurvy grass, twelve handfuls; water cresses, brook lime, sage and mint, of each four handfuls; the peel of six oranges; two nutmegs bruised; Brunswick beer, or mum, twelve pints; draw off only six pints by distillation.

32. Of all the medicines commonly known, Venice treacle is the best for strengthening the digestive faculties; but as it contains

* How far medicines are improved, or impaired by being compounded, is a question foreign to our present purpose. It can scarcely be determined by experience, for physicians of great observation have differed in their opinions of the same compounds. It is however generally agreed, that there are limits to the composition of medicines, and our author has greatly exceeded those limits in his prescriptions for the gout, as well as in many others. The efficacy of those prescriptions probably depended upon a small part only of the ingredients that composed them.

many ingredients that over heat, withal a large quantity of opium, an electuary like that above described may be more commodiously composed of the principal warming and strengthening plants. But care must be had to make choice of such simples, as are most agreeable to the patient's palate, because it must be continued a long time, namely, for the most part of his life. Of all simples the Peruvian bark is the best; for a few grains of it taken morning and evening, strengthen and enliven the blood.

33. And in reality, these and such like medicines, which strengthen and enrich the blood (provided their heat be not owing to vinous spirits, for reasons hereafter to be given) do most service in this and most other chronic diseases; inasmuch as every disease of this kind is in my opinion to be referred to the same general cause; namely, the indigestion of the humours.

34. But as nothing can put this matter in a clearer light than the giving a view of the difference there is between acute and chronic diseases, it is hoped the reader will not be displeased, if I make a short digression from the present subject. As therefore those diseases are generally deemed acute which soon prove fatal, or are speedily brought to concoction; so these are entitled chronic distempers, which either require a long time to come to concoction, or never come to concoction at all. And this appears manifest, both from the nature of the thing and the terms employed to express it; but the cause of the dissimilitude between these two kinds of diseases being less obvious, and not so easily discoverable, I conceive it will be worth while to spend some time in a research of this nature; since a clear and distinct notion of these particulars may greatly contribute towards discovering the genuine indications suited to the cure of these diseases.

35. Now, whether the inmost bowels of the earth (if the expression be allowable) undergo various alterations, so as to infect the air by the vapours thence arising, which seems very probable to me; or whether the whole atmosphere be infected by means of an alteration resulting from a peculiar conjunction of any of the planets; certain it is, that the air sometimes abounds with such particles as injure the human body: as at another time it becomes impregnated with such particles as prove pernicious to some species of brutes. During this state of the air, as oft as we receive into the blood by breathing the poisonous corpuscles which are prejudicial to the body, and contract such epidemic diseases, as such tainted air is apt to produce, nature raises a fever, which is the ordinary instrument it employs to free the blood from any noxious matter therein contained. And these diseases are commonly esteemed epidemic diseases, and are therefore acute and short, because their motion is so quick and violent. But besides these distempers produced by an external cause, there are others not less acute, which proceed from some

peculiar inflammation of the blood, and which do not arise from any general cause depending on the air, but from some peculiar irregularity, or indisposition of particular persons. This kind of fevers, which happens in most years, I call intercurrent and sporadic.

36. But chronic diseases are of a very different nature from these; for though a certain and unwholesome air may greatly contribute to their production, yet they do not so immediately proceed from the air, but generally from the indigestion of the humours, the common origin of all these diseases. For when the *stamina vitæ* are much debilitated, and in a manner worn out, either by age, or by remarkable and continued irregularities in the use of the six non-naturals, especially with relation to food and drink; or if the secretory vessels be so far weakened, as to be no longer able to perform their appointed functions of cleansing the blood, and carrying off its superfluities: in all these cases a greater quantity of humours being collected in the body, than can be digested by the strength of nature; these, by their long continuance in the vessels, undergo various fermentations and putrefactions, and at length appear in a species, occasioning different diseases, according as they are variously vitiated and depraved. And as these vitiated juices differ from one another, so they fall upon the particular part that is best fitted to receive them, and there they gradually manifest those numerous symptoms, which ordinarily proceed, partly from the nature of such juices, and partly from the irregular motion excited in the parts affected; both which causes, in conjunction, constitute that irregularity of nature, which is characterized with the nature of some diseases.

37. Now that most chronic diseases chiefly proceed from such an inability of nature to concoct the humours, will manifestly appear, if we reflect that aged persons, whose digestive faculties are impaired, and their spirits, which are the instruments thereof, are wasted by the repeated functions of a long life, are more subject to these diseases than young persons, whose vital warmth is greater, and dissipates those foul humours which are amassed in the body, and whose secretory vessels are possessed of such a constant natural heat, that they may on no account fail of performing their functions of purifying the blood, unless they are burthened and in a manner obstructed by an over-fulness of humours. And farther, that such an indigestion of the humours is the cause of most chronic diseases, is clear from hence, that winter is much more apt to generate them than summer; notwithstanding that some do not actually shew themselves till the decline of winter, though the collection of humours whereon they depend, increases the winter throughout, becoming greater by the

coldness of the season, and debilitating nature, so as to render her less able to perform the functions of the animal economy.

38. Hence it is that such as enjoy a good state of health in summer, do notwithstanding rarely escape those diseases in winter, to which they are most subject; as for instance, the gout, asthma, cough, &c. And hence likewise we learn, why travelling into southern countries is so effectual to conquer those diseases, the cure whereof is fruitlessly attempted in a colder climate. The truth of what has been delivered concerning the general cause of chronic diseases, will be farther confirmed by the remarkable and almost incredible relief obtained by riding on horseback in most chronic diseases, but especially in a consumption. For this kind of exercise strengthens all the digestive powers, whilst it revives the natural heat by a continual motion of the body, and enables the secretory vessels to perform their function of purifying the blood in a proper manner; whence an amendment of the greatly debilitated digestions must needs follow, and, of course, a healthy state.*

39. From the reasons therefore just alleged, it sufficiently appears that such warm herbs do great service, where there is no manifest contra-indication, not only in the gout, but in most chronic diseases, inasmuch as they procure a warmth like that of summer, even in the midst of winter: though if we accustom ourselves to use them in summer, they will more effectually prevent such diseases as are ordinarily occasioned by the contrary season. And in reality, if we defer, or neglect taking them till the approach of winter, at which time a considerable quantity of humours is amassed, it is to be apprehended it may then be too late to have recourse to this refuge.†

40. But though (as I have already shewn at large) the gout is of so peculiar a nature, as to be rendered worse by cathartics; yet in most other chronic diseases bleeding is to be repeated, as there is occasion; and purging to be ordered before using the strengthening and stomachic remedies here commended; but when the patient has begun with them, they must be continued

* The whole of this and the preceding section, contains excellent advice to persons in the decline of life. By means of exercise or moderate labour, many of the diseases incident to old age are prevented. It has been remarked in Philadelphia, that those mechanics who become independent before they are old are less healthy and long lived, than those whom necessity compels to work in the evening of their lives.

† The benefit that has been derived from the habitual or occasional use of ginger tea by persons subject to chronic gout is a proof of the truth of this remark.

without any intermediate evacuations ; for it is always to be remembered, that whenever the cure of any disease is attempted by means of strengthening remedies, all kinds of evacuation prove highly pernicious. Lastly, I do not assert that the stomachic medicines just enumerated are the most excellent of the kind, but I maintain that whoever happens to discover the most effectual remedy to answer this intention, will be capable of doing much more service in chronic diseases than he can well imagine.

41. But amongst the remarks I proceed to communicate, on the cure of the gout, this is primarily and chiefly to be attended to, namely, that all stomachic or digestive remedies, whether they consist of a course of medicines, a regimen, or exercise, are not to be entered upon in a heedless manner, but to be persisted in daily with great exactness. For since the cause in this and most other chronic distempers is become habitual, and in a manner changed into a second nature, it cannot reasonably be imagined, that the cure can be accomplished by means of some slight and momentaneous change made in the blood and juices by any kind of medicine, or regimen, but the whole constitution is to be altered, and the body to be in a manner framed anew. For it is otherwise here than in some acute diseases, where a person in full strength and good health is suddenly seized with a fever ; whereas in the gout, a person by indulging himself in high feeding, hard drinking, neglecting his usual exercise for several years running, and wearing out his constitution by sloth and idleness, or by hard study, and close thinking, and other errors of life, does at length, in a manner purposely, injure the various ferments of the body, and oppress the animal spirits, which are the principal instruments of digestion, whence the vitiated juices, amassed in the habit, break out as soon as they come to their height, and do much mischief, relaxing the fleshy parts, and weakening the joints, so that they readily receive the humours thrown down upon them. And in this manner a different constitution is formed by degrees, the original natural one being quite destroyed. And those fits which engross the attention of indiscreet and unthinking persons, are no more in effect than the succession and order of symptoms resulting from that method which nature ordinarily employs to expel the morbid matter. Hence, therefore, it is a fruitless labour to attempt the cure of this disease by using any medicine or regimen occasionally : for since this habit is chiefly founded on, and consists in a weakness of all the digestions, and a relaxation of all the parts, both these disorders must be remedied, and the strength of the digestive powers, as well as the tone of the parts, restored and recovered by degrees to the former healthy state of the body. But though it may seem impossible to compass this end effectually, not only because any particular habit cannot easily be changed into a contra-

ry one, but also, because old age, which ordinarily accompanies this disease, greatly obstructs this design ; yet the cure is to be attempted as far as the strength and age of the patient will permit, who will have the gout more or less severely the farther he declines from, or the nearer he approaches this state.

42. Furthermore it is to be observed, that digestive remedies, either of the medicinal, or dietetic kind, are to be used chiefly in the intervals of the gout, and at as great a distance as may be from the subsequent fit. For age obstructs the cure so much, that the strengthening the digestive powers, the recovering the debilitated ferments of the body, and restoring the blood and viscera to their due healthy state, cannot be speedily accomplished, and requires a continued use of medicine.

43. But though these and the like remedies may do service, yet they are not able alone to answer this intention of strengthening, but need the joint assistance of such things as do not properly belong to medicine ; it being an error to imagine that this, or any other chronic disease, can be cured by medicine only.

1. Therefore moderation in eating and drinking is to be observed, so as on the one hand to avoid taking in more aliment than the stomach can conveniently digest, and of course increasing the disease thereby, and on the other hand defrauding the parts, by immoderate abstinence, of the degree of nourishment requisite to keep up the strength, which will weaken them still more ; either of these extremes being equally prejudicial, as I have often experienced both in myself and others. 2. As to the quality of the food, though whatever is easy of digestion, singly considered, deserves the preference, yet regard must be had to the palate and appetite, because it is frequently found that what the stomach earnestly covets, though of difficult digestion, does nevertheless, digest better, than what is esteemed of easier digestion, if the stomach nauseates it ; but for this reason indigestible aliment should be used more sparingly. 3. I am of opinion that the patient ought to eat only of one dish at a meal, because feeding on different sorts of flesh injures the stomach more than eating an equal quantity of any one kind ;* but excepting flesh he may eat other things at pleasure, provided they be not sour, salt, or spiced : because, though such food does not

* This remark is correct. A variety of dishes prompts to excess in eating, and should be carefully avoided by invalids. Mixed aliments are moreover digested with more difficulty than such as are simple : but there are cases where a slow digestion of a moderate quantity of food may prove useful by imparting a gentle stimulus to the system.

hurt digestion, it nevertheless does mischief by putting the morbid matter in motion.

44. As to the times of eating, only dining is necessary; for as the night should seem peculiarly designed to digest the humours, it would be wrong to waste that time in digesting the aliment.* For this reason gouty persons should forbear suppers, but they may drink a large draught of small beer,† as being generally subject to the stone in the kidneys; the growth whereof is considerably obstructed by drinking such a liquor at this time, as it cools and cleanses the kidneys.

45. A milk diet, or the drinking milk, either as it comes from the cow, or boiled, without adding any thing to it, except perhaps a piece of bread once a day, hath been much used these twenty years past, and hath done more service in abundance of gouty subjects, whilst they persist in it exactly, than all other kinds of remedies. But upon quitting it, and returning to the ordinary way of living of healthy persons, though they used the mildest and slenderest diet, the gout immediately returned with more violence than ever; for as this regimen weakens the constitution, the patient cannot so well struggle with the distemper, whence of course it proves more dangerous and lasting. Whoever, therefore, intends to pursue this regimen, ought beforehand to consider maturely, whether he be able to persevere in it for life, which perhaps he will find too much for him, though he should be a person of great resolution. For I knew a nobleman, who, after living a whole year on milk only with much pleasure, during which time he had one or more motions every day, was constrained to leave it off, because he grew costive on a sudden, the temper of his body altered, and his stomach at length nauseated milk, though he had still a liking to it. Again, it is observable that some hypochondriac persons of a gross habit of body, or those who have been long used to drink spirituous liquors freely, cannot bear milk. And farther, the short and fleeting benefit which those who can bear milk receive from this regimen, is not only derivable from its exceeding simplicity, whence I doubt not but water gruel may have the same effect, provided the stomach will bear it, but from its rendering the blood softer and smoother, by blunting the sharp particles contained in the mass; and moreover, which I esteem the principal thing, milk being an aliment that is absolutely unfit for grown persons, represses the turgescence or plenitude of the humours

* The system bears small, but frequent meals, much better than but one, in the four and twenty hours, in all chronic diseases.

† Any pleasant diluting liquor that is moderately stimulating, may be used instead of the beer.

which occasions the gout; and for this reason the few with whom it agrees escape this disease so long as they live upon milk only, but no longer. For as it runs directly counter to the original cause of the gout, which is the debility of the digestions and ferments, it does much more mischief in this respect than benefit in the other. And for want of attending sufficiently to this particular, some inconsiderate persons have fallen into gross and manifestly fatal errors; having, by attempting to conquer the containing cause of the disease, namely, the heat and acrimony of the humours, destroyed the digestions, and all the natural functions.*

46. As to liquors, those are best, in my opinion, which are weaker than wine, and not so weak as water; such as our London small beer hopped, or unhopped, extremes on either hand being pernicious. For, 1. as to wine, though the common proverb intimates that whether a person does, or does not drink wine, he will have the gout; yet it is certain, and confirmed by the experience of abundance of gouty patients, that wine is in fact detrimental. For though it may be supposed to do service by strengthening the digestive powers, the weakness whereof I have long looked upon as the antecedent or primary cause of the gout; yet, with respect to the containing cause thereof, it must be deemed wholly pernicious, because it inflames and agitates the humours which feed the disease. Neither do we grant that wine used by way of common drink helps digestion, but rather assert, that it destroys it, unless in such as have drank it for a long time. For though wine may, in passing through the vessels, communicate some heat to the parts, yet it certainly depraves the ferments of the body, and wastes the natural spirits: and hence I conceive it is that great drinkers generally die of the gout, palsy, dropsy, and other cold diseases. Furthermore, the continued and immoderate uses of wine relaxes and enervates the body, rendering it like the bodies of women; whereas moderately heating liquors strengthen the tone of the parts; whence such as have always drank small liquors are rarely afflicted with the gout. It must farther be noted, that those are chiefly subject to this disease, who, though they have naturally a weak digestion, do, notwithstanding, receive too much nourishment from a cer-

* A milk diet, it is true, has often prevented the gout, but it sometimes disposes to it, and is often very offensive to the stomachs of arthritic invalids. It is too nutritious in the tonic, and not sufficiently stimulating in the atonic gout. Where the stimulus of exercise or labour is used with it in the former case, and a little cordial animal food in the latter, with moderate exercise, it is generally safe and useful.

tain richness of the blood, and grow more bulky by a kind of indigested matter, instead of a solid wholesome substance. And the use of wine adds to this richness of the blood, and so not only amasses a new collection of matter, but also actually occasions the disease, by stirring up the cause of it, which had long lain concealed and inactive. Again, as the blood of gouty subjects nearly resembles that which is taken away in a pleurisy, and other inflammatory diseases, it is absurd to inflame it more with spirituous liquors. And it is as dangerous, on the contrary, to have recourse to over-cooling liquors; which, by utterly destroying both the digestion and natural heat, do more mischief, not occasioning pain, as wine doth, but death itself: as experience shews in those persons who having used themselves to drink wine freely from their youth upwards to old age, and quitted it of a sudden for water or small liquors, have soon destroyed themselves thereby.*

47. Gouty persons should therefore make it a rule in this particular, to drink such liquors as will not inebriate, if drank in a large quantity, or injure the stomach by their chilness. Of this kind, as I before hinted, is our small beer; and in other countries a similar liquor may be made by diluting wine well with water. As to water alone, I esteem it crude and pernicious, and have found it so to my cost; but young persons may drink it with safety, and it is at this day the common drink of the greatest part of mankind, who are happier in their poverty than we are with our luxury and abundance. This is confirmed by the great multitude of diseases with which we are afflicted upon this account, as the stone, gout, apoplexy, palsy, &c. besides the injury done to the mind, in being drove from its natural rectitude, by the disturbance which the fiery spirits of such liquors, together with the animal spirits which assist the thinking powers, occasion, by volatilizing the mind too much, and suggesting vain

* There can be no doubt of the gout being produced by other causes besides wine. When it affects the limbs, it is generally the effect of that liquor; but excess in eating all high seasoned aliments—strong tea and coffee, indolence, and the undue exercises of all the faculties of the mind, induce it in other parts of the body. Our author is correct in asserting that wine retards digestion, except in persons in whom the stomach is debilitated below its natural standard of health, in which case its stimulus predominates over the qualities by which it injures digestion. He is equally correct in his opinion of the use of water as a drink in the above state of the stomach. Weak small beer, and weak old wine and water are generally inoffensive when the stomach is not affected with a morbid acidity.

and idle notions, instead of solid and weighty reasonings, and thus at length rendering us drolls and buffoons instead of wise men; between which the difference is almost as great as between a substance and a shadow.*—But enough of this.

48. But though a person, who has the gout mildly and only at intervals, need only use small beer, or wine diluted with water, this degree of the disease not requiring a stricter regimen; yet when the whole substance of the body is in a manner degenerated into the gout, it cannot be conquered without a total abstinence from all kinds of fermented liquors, how small and smooth soever they be; inasmuch as all liquors of this kind contain a pungent spirit, with some degree of acrimony; and, what is worse, being possessed of a ferment, they dispose the humours to a perpetual fermentation, in the same manner as yeast added to malt liquors communicates its fermenting quality to the whole liquor. For this reason a diet drink is to be ordered for common drink, to be made of those ingredients which are usually known and applied to this purpose; but it must not be too strong, because in that case it will inflame the humours as much as wine; neither, on the contrary, must it be so small as to injure the natural functions by over-cooling. And this kind of drink, provided it be made of such ingredients as the patient most likes, though it may occasion some loathing for the first week or fortnight, does nevertheless prove as agreeable afterwards, as any other liquors he has been used to drink. It will likewise quicken the appetite, and render it more natural than it used to be with fermented liquors; and will be attended with this farther convenience, that whoever uses it for his common drink, may indulge more freely in other kinds of diet, than when he drank wine or beer: for the errors in point of diet, which it is hardly possible to avoid entirely, will be in some measure corrected and amended thereby. But the principal benefit derivable from it, is being preventive of the stone, which is the general attendant of the gout; as all sharp and attenuating liquors both contribute to breed the stone, and occasion a fit thereof. I prefer the following decoction for its agreeable colour and taste:

Take of sarsaparilla, six ounces; sassafras wood, China root, and the shavings of hartshorn, each two ounces; liquorice root, an ounce; boil them together in two gallons of spring water for half an hour; afterwards infuse them upon hot

* In the close of this section we have a striking testimony of the influence of physical causes upon morals.

ashes close covered for twelve hours ; then boil them till a third part of the liquor is exhaled ; and as soon as it be taken off the fire, infuse therein half an ounce of aniseeds for two hours ; lastly, strain it off, and let it rest, till it becomes clear, and put it into bottles for use.

49. It is properest to begin with this decoction immediately after the fit of the gout is gone off, and it must be continued, both in the fit and intervals, during the remainder of life. For it is not sufficient at a time when the disease actually rages to study for new medicines, as nature, whilst the humours are in such commotion and disturbance, cannot well bear the exchange of fermented liquors, of an active and spirituous quality, for such as are small and without spirit. At the same time the abovementioned electuary must be taken every day, both in the fit and in the intervals ; for the warmth of this will in some measure correct the smallness of the diet drink, as it will communicate a due degree of heat to the blood and viscera, without the agitation which is generally occasioned by the heat of fermented liquors.

50. If it be objected that a total abstinence from wine and other fermented liquors would render life in a manner insupportable, I answer, it must be considered, whether it be not much worse to be tortured daily by the pain accompanying an inveterate gout (for when it is gentle there is no need of so strict a regimen) than to be confined to this decoction ; which, if the patient continues, he may indulge himself in most other kinds of aliments ; not to repeat now that this drink, like all other things, grows pleasant by custom. Doubtless, whoever hath had this disease, if he is not void of reason, will not hesitate at all to which to give the preference.

51. But notwithstanding, if the patient, either 1. from a long continued and immoderate use of intoxicating liquors ; 2. or by reason of old age ; or 3. great weakness, cannot digest his food without wine, or some other fermented liquor, it is certainly dangerous for him to leave off wine on a sudden ; an error that has in reality destroyed abundance of people. Such a person, therefore, in my opinion, should either not use the dietetic apozem above prescribed ; or, if he be resolved to take it, should accustom himself to it by degrees (drinking a glass of wine for some time at meals) and rather by way of medicine than diet, till it becomes more familiar to him. But Spanish wine is to be preferred here to Rhenish or French wine ; these last being apt to exasperate the humours, and increase the morbid matter, notwithstanding they are very grateful to the stomach. To which we may add, that as they are almost as crude and indigested as our cyder, they are consequently not so warm and cordial as

the case demands. And these particulars shall suffice concerning the diet of gouty persons.*

52. There is another caution to be inculcated, which, though it may seem trifling, is of great moment, both in order to digest the gouty matter during the fit, and also to prevent the generation thereof in the intervals; and that is, going to bed early, especially in winter. For, next to bleeding and purging, nothing impairs the strength more than sitting up late at nights; which every valetudinarian can affirm from his own experience, provided he has only carefully observed how much more vigorous and cheerful he rose in the morning when he went to bed early, and how languid and faint he has found himself after sitting up late. And though there may seem to be no difference betwixt going to bed earlier or later, provided a person lies in bed the same number of hours; as, for instance, whether he goes to bed at nine and rises at five, or at eleven and rises at seven; yet it is not so, and, I conceive, for this reason principally, namely, that in the day the spirits are dissipated, either by exercises of the body or mind, which are so weak, in sickly persons, that they require the assistance of sleep earlier in the evening; and as the approach of night occasions a kind of relaxation of the animal economy, the tone of which was kept up in the day by the heat of the sun, the warmth of the bed becomes necessary to supply the place of the sun, especially in the winter season. But the spirits being refreshed and invigorated in the morning by the preceding night's sleep, together with the warmth of the bed, and the ensuing day likewise strengthening the tone of the parts still more, the rising early at this time, though it may take an hour or two from the morning sleep, hurts the constitution less than sitting up an hour or two later in the evening. For this reason I would advise such as are subject to the gout to go early to bed, especially in the winter, and to rise betimes in the morning; though their having

* Soon after the publication of Dr. Cadogan's popular pamphlet upon the gout, about the year 1771, in which he denounced wine, and recommended water only as a drink to gouty people, the disease was followed with distressing stomach complaints, and in many instances by death, in all those persons in the decline of life who adopted his advice. The wines most proper for gouty people are such as are old and possess a strong body. In the island of Madeira where old wine of that name only is drunken, and in liberal quantities, the gout is a rare disease. The climate probably counteracts the effects of the wine in a certain degree, for it is a fact, that less excess in the use of wine will produce the gout in the damp climate of Great Britain, than in the drier and warmer climates of the West Indies and the United States.

less sleep than usual may incline them to lie longer, in order to get it up. For the sleep which is got in the morning will rob them of as much the next night ; and thus at length by doing violence to nature, and despising its wise dictates, the night may be preposterously turned into day, and the day into night.*

53. The patient must likewise use his utmost endeavour to keep his mind easy, for all disquieting passions, if they once become immoderate, greatly dissolve the texture of the spirits, which are the instruments of digestion, and so of course increase the gout. He should, therefore, wisely reflect on his mortality, and not vainly imagine he is to escape the evils that are necessarily annexed to this state ; for, whether any affliction of mind befalls him through his own fault, or that of others, certain it is that he will never be able to prescribe laws to the world, which has not always obeyed any single person hitherto, how powerful and wise soever he hath been ; nor will every thing always answer any body's expectation so exactly, as he vainly hoped they would, but whilst he is engaged in regulating his affairs, of a sudden he becomes an example of human frailty, and unreasonably deprives himself of the transitory enjoyments of life. Too much application to study and business is likewise equally pernicious ; for as this disease is oftener accompanied with melancholy than any other, such as are subject to it ordinarily fatigue and oppress the spirits to that degree, by long and intense thought, without the artificial help of reading, so that the body cannot longer preserve itself in a healthy state : and hence I conceive it is, that few fools have had the gout.

54. But nothing so effectually prevents the indigestion of the humours, (which I esteem the principal cause of the gout) and consequently strengthens the fluids and solids, as exercise. It must, however, be observed, as I have already mentioned, that as there is more necessity for making a thorough change in the constitution in this than in any other chronic disease, so exercise, unless it be used daily, will do no service ; for if it be intermitted at times, it will avail little towards changing the constitution, now reduced to a languishing and tender condition by idleness and indulgence, and may perhaps do mischief by causing a fit, after leaving it off for a considerable space of time. But exer-

* The whole of this section deserves to be read with attention. The advice given in it, of going to bed early, is founded not only upon the advantages derived from it by experience, but upon its according with a well known law of the animal economy, and that is, a disposition to fever that takes place about nine o'clock at night, and which when not relieved by a recumbent posture of the body, abstracts from the remains of its strength.

cise should be moderate, because the contrary in aged persons, who are chiefly subject to the gout, wastes the spirits too much, and consequently hurts the concoctive powers, which are strengthened by continued and gentle exercise. And though a person may think this hard, who, besides old age, inability to motion, and indolence, which is in a manner natural in this disease, is likewise tormented with pain, yet if exercise be omitted, all the remedies which have hitherto been discovered will not at all avail. And as the intervals between the fits cannot be long, without constant exercise, so the patient will likewise be more subject to the stone, which is a more dangerous and painful disease than the gout.

55. To these we subjoin another momentous particular, namely, that the chalky concretions are considerably increased in the joints, and especially in the fingers, by long inaction; so that at length these parts quite lose their motion. For however positively some may assert, that the matter of these concretions is only the tartar of the blood translated to the joints, it will nevertheless easily appear, upon considering the thing with a little more attention, that when a large quantity of indigested gouty matter falls upon some of the joints, and occasions a lasting swelling of the neighbouring parts, it happens at length, partly from their assimilating property being destroyed, and partly from the obstruction caused therein by this sluggish humour, that this matter is generated, which is changed into this kind of substance by the heat and pain of the joint, and increases every day, converting the skin and flesh of the joint into its own nature, and may be picked out with a needle, and resembles chalk, crab's eyes, or some similar substance. But I have experienced, in my own particular, that not only the generation of these concretions may be prevented by daily and long continued exercise, which duly distributes the gouty humours throughout the whole body, that otherwise readily attacks a particular part, but it also dissolves old and indurated concretions, provided they be not come to such a degree as to change the external skin into their substance.

56. As to the kind of exercise, riding on horseback is certainly the best, provided it be not contra-indicated by age, or the stone; and indeed I have often thought, if a person was possessed of as effectual a remedy as exercise is in this and most chronic diseases, and had the art likewise of concealing it, he might easily raise a considerable fortune. But if riding on horseback cannot be used, frequent riding in a coach answers almost as well; and in this respect, at least, the generality of gouty persons have no cause to complain, because their riches, which induce them to live in such a luxurious way as occasions the disease, enable them to keep a coach, in which they may take the air, when they cannot ride on horseback. It must be noted,

however, that a healthy air is vastly preferable to an unhealthy one for this purpose; thus the country is better than the town, where the air is full of vapours that exhale from the shops of different mechanics, and rendered still denser by the closeness of the buildings, as it is in London, which is esteemed the largest city in the universe. But the great difference there is between using exercise in the country, or in town, a gouty person will soon find upon trial.

57. With respect to venery, if the gouty patient be in years, and so destitute of a sufficient share of spirits to promote the digestions, and his joints and the neighbouring parts consequently too much debilitated and relaxed, without any assistant from this destructive quarter; in this case, I say, it is as imprudent for such a one, in my opinion, to indulge those pleasures, as it would be for a person, after having engaged to go a long journey, to spend all his stock of provisions before setting out. Moreover, besides the mischief he does himself for want of restraining the languid inclinations of declining age, he loses the great privilege of enjoying that exquisite satisfaction, which by the particular indulgence of nature is reserved for the aged only, who, towards the period of their lives, are freed from the violence of those passions, which like so many savage beasts, preyed upon them perpetually in youth, the gratification of them being by no means an equivalent for the long train of evils, which either accompany, or follow it.—And let this suffice for the regimen.

58. But though a gouty person by carefully observing these rules relating to diet, and the rest of the non-naturals, may prevent violent fits, and so strengthen the blood and solid parts, as to free himself from that multitude of evils, which renders the disease not only intolerable, but in the end fatal; yet, notwithstanding, after some intervals, he will sometimes be seized with the gout, especially towards the close of winter. For though in the summer season, whilst the tone and strength of the blood are increased and preserved in that state by the heat of the sun, and perspiration goes on in a proper manner, the digestions must needs be much better performed than in winter; yet, as the blood is weakened and perspiration obstructed upon the approach of this season, there must needs be a copious indigested matter amassed, which at length, by its long continuance in the habit, will form a species, manifesting itself by proper symptoms, and giving a fit upon the first occasion, either by the humours being put into motion by the nearer approach of the sun, the use of wine, violent exercise, or any other apparent cause.

59. It is clear from what has been delivered, that whoever undertakes the cure of this disease, must endeavour to make a thorough change of his habit of body, and restore it to its former con-

stitution, as far as age and other circumstances will permit ; and this must be attempted only in the intervals between the fits.* For when the morbid matter is not only generated, but already thrown upon the joints, it will be too late to endeavour to change it, or to expel it any other way ; since it must be expelled by that method only which nature points out, and the business is to be left entirely to her management. This practice obtains in the paroxysms of intermittents ; which, for the same reason, we do not attempt to remove till the heat be over : for it is equally absurd to be solicitous to take off the heat, thirst, restlessness, and other symptoms of these fevers, as to think the gout is to be cured by endeavouring only to abate the symptoms ; whereas the cure is by this means obstructed and prolonged ; for the more the pain is eased, the more the concoctions of the humours are prevented ; and in the same degree the lameness is relieved, and the expulsion of the morbid matter is checked. Again, the more the violence of the fit is suppressed, the longer it will last, and the shorter likewise the interval will be between the fits, and less free from every degree of the symptoms accompanying this disease ; which will be acknowledged by any person, who has attentively considered what we have delivered above in our history of this disease.

60. But though nothing considerable must be attempted in the fit, excepting only that those symptoms are to be relieved which an improper method of cure sometimes occasions ; yet, as this disease is unanimously held to arise from a plenitude of humours, it may not perhaps be amiss for the patient to forbear flesh for a few days in the beginning of the fit, and instead of it to use water-gruel, or some similar aliment ; for such a slender diet will greatly contribute towards lessening the quantity of the morbid matter, and give nature an opportunity of digesting it

* Had our author left no other mark of his medical skill, than the advice contained in the beginning of this section, and which he hinted at in the 39th section of this chapter, it would be sufficient to entitle him to the praise and gratitude of his posterity in medicine. The advice is founded upon debility being the chronic or permanent predisposing cause of the gout, and applies alike to all diseases which are accompanied with remissions and intermissions. The most suitable remedies for a disease often fail of curing it, only because they are not given during its intervals. A belief in the unity of disease renders the advice given by Dr. Sydenham for the cure of the gout, also, of all other diseases which are attended with intervals, as rational and proper, as the practice of giving bark *only* in the intermissions of fevers.

sooner.* But as constitutions differ considerably, insomuch that some persons cannot bear to abstain from flesh without being immediately seized with a disturbance of the spirits, faintings, and other symptoms of the hysteric kind; such therefore will receive hurt by refraining from flesh any longer than the stomach is set against it, which for the most part is only the first or second day of those particular fits, all which joined together constitute the whole fit, as we have intimated above. But whether the patient eats flesh sooner, or later, he must be very cautious both of eating more during the fit than is requisite to support nature, and of the quality of the food.† For great care should be had to guard against every error, either in the quantity or quality of the diet, both solids or liquids, even in the intervals of the fit, and especially in the fit itself. And farther, no little regard is to be had in the intervals to the rest of the non-naturals, of which we have discoursed largely above; and though the pain and great inability to motion may seem to contra-indicate exercise, which I have chiefly extolled in this distemper, the labour must nevertheless be undertaken; for though the patient may think himself utterly unable to bear to be carried into a coach in the beginning of the fit, and much more so to endure the motion of it, yet upon trial, he will soon find himself more easy from such a motion, than he is at home in his chair. Again, if this kind of exercise be used morning and afternoon for some

* As the stomach is often in a languid state in this disease, vegetable aliment of a cordial nature should be preferred to that which is more simple. The following vegetable soups have been found nearly as acceptable to the stomach as animal in such cases. Three parts of any of the following vegetables, viz. potatoes cut into small pieces, barley, the ends of asparagus, green peas bruised, or split peas, or lima beans bruised, squashes, or green Indian corn, and one part of onions cut into small pieces, (the quantity to be regulated by the consistence required in the soup) boiled together with a piece of soft bread in a quart of water to a pint, then strained through a sieve, or colander, and afterwards made savoury with a little salt, and eaten with a piece of toasted bread in it.

† For patients in this state of the gout, who cannot live exclusively upon vegetables, a simple and pleasant aliment may be taken, prepared by cutting a pound or more of beef, first deprived of its fat, into small pieces, so as to be put into a quart bottle. The bottle well corked, should be put into a small pot of cold water, which should be boiled for three or four hours. The liquor should then be poured out of the bottle, and made savoury with a little salt, and any agreeable spice. It is the gravy of the meat, or the serum of the blood of the animal. It may be diluted, if agreeable to the patient, and eaten alone, or with toasted bread broken in it.

hours, another advantage attends it, namely, it causes him to rest a great part of the nights, which he could not do when he kept constantly within doors; for very moderate exercise fatigues a gouty person so much, that he falls asleep; besides, this kind of exercise is in some degree preventive of the stone, which an idle and sedentary life generally occasions. But the principal advantage resulting from the constant use of exercise is, the preventing the loss of motion in the limbs, which seizes several persons after the first or second long fit, occasioned by the contraction of the tendons of the hams and heels; for when the pain has been so violent that they have lain still a long time, not caring to stretch out their legs when it has attacked the knees, they at length lose the use of their legs and feet for the remainder of life, both during the intervals, and in the fits, which nevertheless they do not escape. Again, in aged persons, whose concoctions are considerably vitiated, and who by their long continuance of the disease, have the substance of their bodies in a manner changed into the gout, it is not to be expected that the disease can ever be brought to digestion without exercise; for when it exceeds the natural strength, they frequently perish by fainting and sickness, occasioned by the copious morbid indigestible matter, which cannot be assimilated, and destroys them like poison.

61. But notwithstanding what has been said of the usefulness of exercise in the paroxysms of the gout, yet, if the fit be so violent as to sink the patient in the beginning of it (which happens chiefly in those subjects in whom the gout is at the height and hath continued in that state for many years) and confine him to his room, it will likewise be proper for him to keep his bed a few days, till the pain abates, and the warmth thereof will in some measure supply the want of exercise; for lying constantly in bed digests the morbid matter more effectually in a few days, than sitting up does in many, especially in the infancy of the disease, provided that the patient can forbear flesh without faintings, and other bad symptoms, and be contented only with water-gruel, small beer, and the like. But it is well worth noting, that if the gout be inveterate and disposes the patient to faintings, gripings, a looseness, and the like symptoms, that he is in great danger of being destroyed by one of these fits, unless he uses exercise in the open air: for abundance of gouty persons have been carried off by those symptoms which they have been subject to, from being confined within doors, and especially in bed, who had lived longer if they would have borne the fatigue of riding in a coach most part of the day.* For, though a person who is afflicted

* In favour of the early exercise of the limbs in a declining state of a fit of the gout, the reader will find an excellent paper in the

only with a pain of the limbs, may keep his room ; yet another who, instead of violent pain, is troubled with sickness, and the other symptoms above enumerated, cannot do the same without endangering his life. And, in effect, it is well for the patient that there is no great need of motion, or exercise, as long as the pain continues so severe, that he cannot bear it ; his life being secured by the pain, which is the sharpest remedy in nature.

62. But as to the symptoms of the gout ; we are to relieve those which threaten life, the most frequent of which are the weakness and faintness of the stomach, with gripings, as if occasioned by wind ; and these happen either to those who have had the gout many years ; or to those who, though they have not had it long, have nevertheless brought it on too hastily by quitting spirituous liquors, of a sudden, for thin and very cooling liquors, or by applying repelling plaisters and other cooling topics, to the parts affected, to ease the pain ; whence the morbid matter, which should have been deposited in the joints, is translated to the viscera. I have tried several remedies in my fits of late years to relieve those symptoms ; but nothing did me so much service as a small draught of canary, taken occasionally as the sickness and faintness required. Neither French claret, Venice treacle, or any other of the cardiacs I am hitherto acquainted with, is so efficacious. But we are not to imagine that canary or any other cordial, can wholly secure the patient without the use of exercise.

63. But if some violent symptoms come on suddenly, from the striking in of the gouty matter, and threaten death, we are not to trust to the wine, or exercise above commended ; but here, provided only the natural, or vital parts, and not the head, be affected, we must have immediate recourse to laudanum, and give twenty drops of it in a small draught of plague water, and the patient must compose himself to rest in bed.

64. But if the gouty matter occasions a looseness, for want of being translated to the limbs, provided it be not the crisis of a particular fit, and yields not to laudanum and exercise of all kinds (for this is to be tried first in the cure of a looseness) but continues, attended with sickness, gripings, and the like symptoms ; the only remedy I know in this case, is to raise a sweat by a suitable method and medicines ; and if this be done every morning and night for two or three days running, keeping it up two or three hours at a time, it generally checks the looseness, and forces the morbid matter to the limbs. To this method I owe my recovery from this disease some years since (which I had imprudently occasioned by drinking cold water for my common

drink) after having used cardiacs and astringents of various kinds to no purpose.

65. There is another symptom, which I have often seen, though it is not so common, namely, a translation of the peccant matter to the lungs, by a cough in the winter season, occasioned by taking cold in the fit, which by degrees invites the matter to those parts, the joints the meanwhile being in great part, or totally freed from the pain and swelling, from the translation of the morbid matter to another part. In this single case, the curative indication is not to be levelled at the gout, but this symptom is to be treated like a true pneumonia; namely, by repeated bleeding, and cooling and incrassating medicines and diet, as the blood that is taken away, especially in this symptom, exactly resembles that of pleuritic persons.* The patient likewise should be gently purged in the intervals of bleeding, to carry off the matter that is lodged in the lungs. But sweating, how effectual soever it may be in forcing the morbid matter upon the limbs, proves detrimental in this case, by hardening the matter that is driven upon the lungs; whence proceed small abscesses, and in the end certain death.

66. It is farther to be noted, that most gouty persons, after the disease has been of long standing, become subject to the stone in the kidneys, and are generally seized with nephritic pains, either at the height, or more frequently at the declension of the cardinal fits, which are very severe, and weaken the patient considerably, who was but too much debilitated and exhausted by the preceding distemper; in this case, omitting all other remedies, let him immediately drink a gallon of posset drink, in which two ounces of marshmallow roots have been boiled, and inject the following glyster:

Take of the roots of marshmallows and white lilies, of each an ounce; the leaves of mallows, pellitory of the wall, bears-breech, and camomile flowers, of each one handful; linseed and fenugreek seed, of each half an ounce; boil them together in a sufficient quantity of water to a pint and half; dissolve in the strained liquor brown sugar and syrup of marshmallows, of each two ounces: mix the whole for a glyster.

* We here see a striking instance of our author's conforming in his practice to the unity of the remote and proximate causes of disease. A pneumonia is an unit, and whether it arises from cold, heat, a contusion, a wound, or translation of what is called gout to the lungs, it should be treated, according to its grade, with the same remedies.

As soon as the posset drink is vomited up, and the glyster come away, exhibit twenty-five drops of liquid laudanum, or fifteen grains of Matthew's pills.

67. If outward application be inquired after to ease the pain of the gout, I know of none (though I have tried abundance, both in myself and others) besides coolers and repellents, which I have already shewn to be unsafe. And I scruple not to affirm from a long course of experience, that most of those who are supposed to perish by the gout, are rather destroyed by wrong management, than by the disease itself. But if a person be desirous of trying the efficacy of such external medicines as are esteemed certain anodynes, to prevent being mistaken, instead of applying them at the declension of a particular fit, when the pain is just going off spontaneously, let them be used in the beginning, and he will soon be convinced of their insignificancy and the groundlessness of his expectations, as they sometimes do mischief, but can never do service. For this reason I have laid aside the use of topics for several years; but I found most benefit formerly from a cataplasm, made of white bread and saffron boiled in milk, with the addition afterwards of a small quantity of oil of roses; which, however, did not at all relieve me in the beginning of the fit. If, therefore, the pain be extremely severe the patient had better keep in bed till it abates a little, than to have recourse to anodynes; but notwithstanding it will be proper, if the pain be violent, to take a dose of laudanum in the evening, otherwise it were better omitted.*

68. But now I am treating of outward applications, I must say something of a certain Indian moss, entitled moxa, which is highly esteemed of late in the cure of the gout, the manner of it being to burn slightly the part affected with it. Now, though this remedy is said to come from the East Indies, and to have been unknown to the Europeans till of late years, it will nevertheless appear to be of more ancient date with us, by consulting the writings of Hippocrates, compiled above two thousand years since. For treating of the Sciatica, he advises, "If the pain be fixt in any one part, and does not yield to medicines, in whatever part it be, to burn it with raw flax;" and a little farther, speaking of the gout in the feet, he says, "The same things are proper here, that do service in the gout of the joints; and indeed this is a long and painful, but not a mortal disease: if the

* Cold water has lately been applied to limbs inflamed with the gout with various success. In young people, in the beginning of a fit, and where the viscera have never or seldom been the seats of the gout, it is perfectly safe, and very useful; under opposite circumstances it should be avoided.

"pain however continue in the fingers, burn the veins above the joints with raw flax." Now I imagine that nobody can think there is such a specific difference between the flame of burning flax, and that of India moss, as to render the latter more effectual in the cure of the gout than the former; any more than he can suppose that a fire made with oak billets can do more than another made of ash. This burning the part affected bids fair to ease the pain, and may sometimes effect it; the most subtle and spirituous part of the morbid matter deposited in the part being by this means expelled. But the relief hereby obtained must needs be short, because it does not reach the indigestion, which is the antecedent cause of the gout; and it may seem needless to observe, that it is to be used only in the beginning of this disease. For when the gout, either by reason of its long continuance, or from wrong management, retreats to the internal parts, which sometimes happens, and, instead of pain, causes sickness, gripings, and abundance of the like symptoms, no judicious person will be for using fire.*

69. And now I have communicated all that I have hitherto discovered concerning the cure of this disease; but if it be objected, that there are many specific remedies for the gout, I freely own I know none, and fear that those who boast of such medicines are no wiser than I am.† And, in effect, it is to be regretted, that the excellent art of medicine should be so much disgraced by such trifles, with which the credulous are deceived, either through the ignorance or knavery of authors; remedies of this kind being extravagantly extolled in most diseases by such as make a trade of those trifles. But what is more surprising, this ridiculous fondness does not only obtain in such diseases as are regularly formed, and proceed from some injury of the organs, or from an external cause, and it imposes upon persons that in all other respects are men of judgment. We have sufficient proof of this in such medicines as are commonly deemed specifics in contusions; such as spermaceti, Irish slate, &c. which only mislead us from the method required in these cases, as will appear by trying how much more safely and expeditiously these accidents may be cured by bleeding and purging alternately, without having recourse to these insignificant remedies, which are generally

* After the reduction of the system by depleting remedies, or in cases of local gout which do not bring the whole system into sympathy, blisters to the part affected are safe and efficacious applications, not only to ease pain, but to remove the disease.

† A belief in specific remedies, is the sedative of reason. As well might we look for a cure of a yellow fever or a pleurisy in any one medicine, as for a specific of a similar kind for the gout.

given after the first bleeding, and likewise to the raising of a sweat, which ordinarily continues during the use of them, and heats the parts already disposed to an inflammation, so as to endanger the life of the patient without necessity.

70. To conclude : The method I have here laid down is founded upon a search into the above-mentioned signs and symptoms of the distemper, and by pursuing it I have relieved myself and others ; but the radical cure of the gout is yet a secret, nor do I know when, or by whom it will be discovered. I hope, nevertheless, that I have contributed in some degree to the good of mankind by this treatise, by faithfully pointing out those rocks whereon myself and many others have split, subjoining likewise the best method of cure which I have hitherto discovered, which is all I promise, though after long consideration I cannot help thinking that such a remedy will be found out hereafter ; and if ever this should happen it will betray the ignorance of the theorists, and clearly shew how notoriously they are mistaken in the knowledge of the causes of diseases, and in the medicines they give to cure them. We have a plain proof of this in the Peruvian bark, the best specific in intermittents : for how many ages had the most acute physicians spent in searching into the causes of intermittents, and adapted such methods of cure as were best suited to their several theories ! But how little honour those methods did to the theories whereon they were founded, appears from a late instance in practice of those, who, ascribing the various kinds of intermittents to the redundancy of different humours in the body, ordinarily attempt the cure by altering the evacuating those humours ; which succeeded ill with them, as is manifest from their failure, but especially from the more successful use of the bark, by the help of which, if given in a proper manner, we commonly answer the end effectually, without regarding those humours, diet, or regimen ; unless the patient be unnecessarily kept in bed whilst he is taking it ; in which case, however, so efficacious is this medicine, that it seldom fails curing the patient, notwithstanding this inconvenience of increasing the disease by the warmth of the bed. In the mean time, till the radical cure of the gout be found out, which all physicians, and myself in particular, ought to wish for, I entreat the reader to receive this little treatise in a favourable manner ; but if he should not, I am so well acquainted with the tempers of mankind, that it will be no great disappointment to me ; and I know my duty so well, that I shall not be discouraged thereat. And if the racking pains, unfitness of motion, and other disorders which I have been afflicted with during the greatest part of my life, together with the loss I have sustained in my business by sickness, may be a means of relieving others, I shall have some reward for the miseries of

this kind, which I have suffered in this life, now I am leaving it for another.*

* It is surprising that the success of the Peruvian bark in curing intermittents without the evacuation of any morbid humour by nature, or art, which our author takes notice of in this section, did not suggest to him the safety of curing other fevers, and particularly the gout, by remedies that act in a manner equally mechanical. Let us acknowledge our obligations to him for the light he has shed upon this disease, and at the heavy expense, not only of much study, but of great personal sacrifices and sufferings.

A

TREATISE

OF

THE DROPSY.

1. THE dropsy attacks persons of all ages, and of both sexes ; but women are more subject to it than men. It chiefly happens to men when they are advanced in years, and to women when they are past bearing children ; though sometimes young women also, whilst they continue childless, are seized with it. One of the first signs of the dropsy is the pitting of the ancle, discovered by pressing the finger against it, especially towards night, for in the morning the swelling is down, which, however, is not so certain a sign of a beginning dropsy in women as it is in men, as being frequently founded in pregnancy, and a suppression of the menses, from whatever cause the suppression proceeds. Nor is the swelling of the legs a certain sign of the dropsy in men ; for when an ancient person of gross habit has had an asthma several years, and is suddenly freed from it in the winter, a considerable swelling soon arises in the legs, resembling a dropsical swelling, and, like that, is larger in winter than in summer, and in moist than in clear weather, and yet without causing any remarkable inconvenience lasts the remainder of life.* Nevertheless the swelling of the legs in men is, generally speaking, to be accounted a sign of an approaching dropsy, especially if it be attended with a difficulty of breathing ; and it increases every day in quantity and size, till the feet will receive no more water, and then the thighs swell, and afterwards the belly fills with the serum, which is continually separated from the blood, and by degrees stretches it as much as it will bear ; so that it frequently contains several gallons of water, which falling upon the navel, sometimes occasions a navel or umbilical rupture.

2. This distemper is accompanied with three symptoms ; 1. a

* This remark accords with modern observations.

difficulty of breathing, proceeding from the compression of the diaphragm, by the water which obstructs its natural motion ; 2. a voiding of little urine, occasioned by the serous parts of the blood being emptied into the belly and other parts fitted to receive it, which should naturally have been evacuated by the urinary passages ; 3. great thirst, caused by the putrefaction of the lymph, which by its long continuance in the body, grows hot and acrimonious, and occasions a kind of continual fever and thirst.

3. In proportion as the swelling of the parts affected increases, the other parts become more emaciated, and waste away, and at length the quantity of the extravasated water growing too large to be contained in the belly, it is translated to the vital and noble parts, and the patient perishes by a kind of deluge.

4. This disease in general proceeds originally from the weakness of the blood, which being unable in this state to change the element into its own substance, necessarily throws it off upon the extremities, and depending parts of the body, and soon after also into the belly, where so long as the quantity is not considerable, nature forms some small vessels to contain it, till it increases to that degree at length, as to be included only by the peritonæum.

5. Now the blood is most commonly debilitated by 1. an immoderate evacuation of it by bleeding, or 2. any other way, 3. a disease of long standing, or 4. the destructive custom of drinking spirituous liquors to excess, which destroys the natural ferments of the body, and wastes the spirits. Hence great drinkers are most subject to the dropsy, notwithstanding its being a cold disease: and on the contrary, water-drinking to such as have been long accustomed to generous liquors, is equally prejudicial to the blood.

6. It must be noted, however, that in women this disease does sometimes proceed from a very different cause, namely, from an obstruction of one of the ovaries, which by degrees destroys its tone, whence its coat being stretched to such a degree by the lymph first deposited there, as to be ready to burst, nature forms some small vessels to receive it, and at length one or more of them breaks, empties its contents into the cavity of the belly, and occasions the same symptoms, as in the dropsy, which we have specified above. But I have already treated of this sort of dropsy.

7. There are likewise two other kinds of swellings of the belly resembling a dropsy, both which often affect women. The first is a preternatural fleshy excrescence generated in the inner parts of the belly, which swells it as much as water included therein does. The other kind proceeds from flatus, and besides a swelling, causes the signs of pregnancy; and happens chiefly to widows, or women that did not marry till they were advanced in

years. And such, in their own and midwife's opinion, feel the child move from the customary, to the usual time of delivery, and withal are sick between whiles, as pregnant women commonly are, and their breasts swell and have milk in them, insomuch that they frequently provide child-bed linen: but at length the swelling of the belly diminishes in the same proportion it increased, and frustrates their hope. Neither of these disorders is to be referred to the distemper under consideration.

8. The genuine curative indications, in a manner naturally arising from the symptoms above enumerated, are either 1. to carry off the water contained in the belly, and other parts, or 2. to strengthen the blood, so as to prevent a fresh drain of water into the parts affected.

9. 1. With respect to the evacuation of the water it is well worth observing, that weak purgatives do more mischief than good in dropsical cases: for as all cathartics are prejudicial to nature, whence it is that they purge, they in some measure impoverish the blood; for which reason, unless they operate, and run off expeditiously, they increase the swelling, by moving those humours which they cannot carry away with them, and raising a tumult in the blood, as appears manifestly in the legs of those who are thus gently purged. To make purging therefore beneficial to the patient, it should be known whether he is easy or hard to purge, insomuch as the cure depends entirely on this particular, and will accordingly be very easy or difficult to effect. Hence, if hydragogues are necessary, great regard must be had to the patient's being easy or hard to purge, which can only be learnt with certainty by enquiring carefully in what manner other purgatives have operated with him formerly. For as some persons are endued with prevailing idiosyncrasy, or peculiarity of the constitution, which renders them easier or harder to be operated on by cathartics, whoever makes the sensible temperament of the body the standard in this case, will often endanger the patient's life; as it frequently happens that some persons of a strong constitution are easy to purge, while others of a weak one find the strongest purgatives of little effect. And in reality this caution respecting the unfitness of the habit to bear purging is to be attended to in prescribing hydragogues, and all other purgatives; for I have frequently found a super-purgation occasioned by lenient draughts, for want of enquiring before-hand into the disposition of the patient, with respect to purging. But because of all diseases, the dropsy, as I have already remarked, requires the roughest and quickest purgatives, and gentle purging, which does service in some distempers, ought by no means to be admitted here, inasmuch as mild purgatives rather increase than lessen the swelling, it follows that rough and plentiful purgation is to be preferred, especially as we have laudanum to check the operation of the medicine, in case it proves too violent.

10. With respect to purging for the cure of the dropsy, great care must be had to carry off the water as speedily as the strength will permit; it being proper to purge every day unless great weakness, or the too violent operation of the preceding purgative, should require a day or two to be interposed. For if purging be used only at distant intervals (though the last purge brought away plenty of water) we shall allow time for a fresh collection of water, and by such a delay (as if we knew not how to improve the advantage obtained) instead of accomplishing the cure, leave it unfinished. Moreover, the bowels are in danger of putrefying from the long continuance of the water in the belly; to which may be subjoined an observation of great importance, namely, that the waters being thus put into motion by the former purgatives, are more apt to injure the body than whilst they remain at rest. So that for this reason, as well as the foregoing, this intention respecting the evacuation of the waters contained in the belly, must be answered with the utmost expedition; nor is purging to be left off, without an absolute necessity, till the whole quantity is discharged.

11. It is farther to be noted, and is verified by practice, that most hydragogues, by their peculiar nature, if given alone to such as are hard to purge, seldom answer our expectations; and being taken in a large dose, instead of purging, raise a disturbance in the blood; whence the swelling, which should be lessened thereby, is found to increase. They are of no other use, therefore, in such constitutions, than to quicken the operation of lenient cathartics; but nevertheless they operate speedily and effectually in such as are easy to purge.

12. For this reason, in such habits, syrup of buckthorn alone evacuates water plentifully, and little else, without disturbing the blood, or rendering the urine high coloured, as other purgatives generally do, and has only the single bad quality of occasioning great thirst during the operation. But if it be given in the largest dose to such as are hard to purge, it will never give many motions, nor carry off enough water.

13. I remember well, for it was my first dropsical patient, that I was called about twenty-seven years ago to Mrs. Saltmarsh in Westminster, who had the dropsy in the greatest degree I have yet seen, her belly being swelled to an incredible size. I gave her an ounce of syrup of buckthorn before dinner, according to the custom of that time, and it brought away an almost inconceivable quantity of water, without causing any disturbance or faintness. Encouraged by this success, I gave it every day, only interposing a day or two occasionally, when she seemed weaker than ordinary. And the water being by these means carried off by degrees, the swelling of the belly diminished daily, and she recovered.

14. And now, being young and unexperienced, I could not

help thinking that I was possessed of an infallible medicine for the cure of any kind of dropsy ; but in a few weeks I discovered my error. For being called soon after to another woman afflicted with the dropsy, which succeeded an inveterate quartan, I gave this syrup, and repeated it frequently, increasing the dose by degrees : but having ineffectually attempted to evacuate the waters, inasmuch as the medicine did not operate, the swelling of the belly increased, and she dismissed me ; and if my memory does not fail me, recovered by the assistance of another physician, who administered more powerful remedies.

15. When the constitution of the patient appears to be such, that lenient cathartics will not cure with ease and expedition, recourse must be had to stronger : in which case, as I have just hinted, it should be remarked, that though few hydragogues administered alone will answer the end, yet by mixing them with lenients to quicken the operation of these, they prove sufficiently effectual. In such habits, for instance, I have frequently ordered the following potion with success : it must be given, however, to none but strong persons, whom it purges when nothing else will, as I have learnt from a long course of experience.*

Take of tamarinds, half an ounce ; the leaves of senna, two drams ; rhubarb, a dram and half ; boil them together in enough water, so as to leave three ounces when strained off, and in which dissolve manna and solutive syrup of roses, of each an ounce ; syrup of buckthorn, half an ounce ; and electuary of the juice of roses, two drams : mix them together for a potion.

Or,

Take of white wine, four ounces ; jalap finely powdered, a dram ; ginger, in powder, half a scruple ; syrup of buckthorn, an ounce : mix the whole together for a potion, to be taken

* The whole of our author's remarks upon the use of purges in dropsies apply only to the *name* of the disease. Active purges are required in what are called tonic or inflammatory dropsies, and such as are lenient, where there is but little action in the blood vessels. There are cases however of dropsy, in which a languid pulse, and other marks of debility forbid even the most lenient doses of that class of medicines. It was probably from inattention to the different states of the pulse in Mrs. Saltmarsh, whom our author cured of a dropsy by purges of the syrup of buckthorn, and in the woman to whom he afterwards gave it, that the issue of the remedy was so very different. Tonics would perhaps have been as needful in the latter as the purging syrup was in the former case. The advantages of combining a strong and weak purge, are well established by modern experience, particularly by the use of cream of tartar with jalap and manna, brown sugar or cream of tartar, with the leaves of senna.

betimes in the morning, and repeated every day, or every other day, as the strength will bear.

16. The following is another form of medicine which I frequently use, and may be commodiously given to such as cannot bear the repetition of other purges, inasmuch as it both warms and strengthens the patient during the operation :

Take of the roots of jalap and hermodactyls bruised, each half an ounce ; scammony, three drams ; the leaves of senna, two ounces ; liquorice roots, and the seeds of anise and caraway, each half an ounce ; the tops of wormwood, and the leaves of sage, each one handful ; infuse them together without heat, in three pints of common aqua vitæ, and strain off the tincture only when wanted. Let a spoonful of it be taken at bed time, and two the next morning, increasing or diminishing the dose, in proportion to its operation.

17. But the two best medicines, in my opinion, for such as are hard to purge, both which are stronger than any of those above specified, are elaterium and the infusion of crocus metallorum. Elaterium, or the fæces of the wild cucumber juice, operates powerfully in a small quantity, and carries off abundance of foul and watery humours. Two grains of it is, generally speaking, a sufficient dose for most persons. I usually order this quantity to be mixed with a scruple of pil. ex. duobus, and made into three pills, to be taken in the morning.

18. As to the infusion of crocus metallorum, if an ounce and half, or, to such as are hard to purge, two ounces of it be given in the morning, and repeated every day, as the strength will bear, though at first it should only seem to evacuate the water contained in the stomach, it will nevertheless at length empty the belly. For besides its usually going downwards, after the vomiting stops, the considerable agitation and the shaking of the stomach and bowels, in a manner surrounded by a current of water, occasioned by so violent an effort, must needs be followed with an evacuation of the water, through such passages as naturally are not sufficiently opened to suffer it to run off that way. But if this emetic does not work enough downwards, I sometimes, but not often, add to it, after the third or fourth dose, a quantity of the electuary of the juice of roses, and syrup of buckthorn, after the following manner :

Take of the distilled water of carduus benedictus, three ounces ; the infusion of crocus metallorum, an ounce and half ; syrup of buckthorn, half an ounce ; the electuary of the juice of roses, two drams : mix them together for a potion.

19. Now, that there are secret passages, through which the waters are conveyed from the cavity of the belly to the intestines, is manifest, for daily experience shews that hydragogues carry off as much water downwards, as if it were originally contained in the intestines themselves. But as it is not easy to account for this fact, it brings into my mind an excellent passage of Hippocrates, who is universally esteemed the most knowing physician the world ever had. His words are these: "Some physicians and pretenders to learning hold it impossible to understand physic, without being acquainted with the nature of the human body, and the manner of its formation; but I am of opinion, that what philosophers and physicians have either said or wrote concerning nature, relates more to painting than the art of medicine."

20. But lest this admirable author should be accused of error, or empirics endeavour to patronise their ignorance from this passage, I freely own, that as far as I am able to judge of practice, which ought to be reckoned the test of physicians, it is absolutely necessary a physician should be well acquainted with the structure of the human body, to enable him the better to form right conceptions of the nature and causes of some diseases. For without a knowledge of the structure of the kidneys and urinary passages one cannot conjecture whence those symptoms arise, which proceed from a stone's being lodged in the pelvis, or sticking fast in the ureters. Surgeons likewise ought to understand anatomy, that they may more surely avoid those vessels or parts in their operations, which cannot be hurt without destroying the patient. Neither can they reduce dislocated bones to their natural situation, without a careful examination, and thorough knowledge of the position of the bones in a human skeleton.

21. Such a knowledge of the human body, therefore, is so absolutely necessary, that whoever wants it will treat diseases hoodwinked. Besides, this science may be acquired without much trouble, and in a short time; for it may be sooner learnt than other more difficult matters by persons of no great acuteness, by inspecting the human body, or the bodies of some animals. But in all acute diseases (which comprehend more than two thirds of distempers) and most chronic ones, it must be owned, that there is something divine, or some specific property, which is not discoverable by a search into the structure of the human body. Accordingly it is my opinion that Hippocrates, in the passage above quoted, means no more than to caution against depending so entirely on the dissection of dead bodies, as if the art of medicine might receive greater improvement from thence, than from an accurate observation of the natural symptoms of distempers, and those things which do service or mischief, and that he did not intend to explode or depreciate a general knowledge of anatomy.

22. And, in effect, it may be presumed, that so wise a man could not but know that all the discoveries that can be made by mankind, cannot reach beyond such a general knowledge. For though a careful dissection of dead bodies exhibits the greater organs employed by nature in her operations, and certain vessels, likewise, through which the fluids are conveyed from these to other parts, yet the original and primary cause of this motion remains invisible; nor can the eye, assisted by the best microscope, discover those vessels, for instance, through which the chyle is strained through the intestines into the chyliferous vessels, or the ducts through which the blood passes from the arteries into the mouths of the veins. Again, there are numberless vessels and pores in the human body, the structure whereof is still more delicate, which no one yet has so much as conceived: so deficient and gross is our knowledge, which is in a manner limited to the surface of things, but can by no means attain to discover their causes. However, notwithstanding this, there needs no very difficult inquiry to come at the knowledge of what is sufficient (as far as the nature of things will allow) to direct us in the cure of those diseases, which require this kind of skilfulness, as we have intimated above, and especially such a share of it as may induce us to revere the Creator with the greatest humility, whilst we contemplate his wonderful workmanship in those things we are able to account for, and that excellent contrivance in others, which we do not in the least comprehend.

23. And as Hippocrates censures such as spend more time in studying the more curious and less useful parts of anatomy, than in practical observations, and consequently in studying nature: so there is the same reason in this age to censure those, who maintain that the art of medicine cannot be better improved, than by new discoveries in chemistry. For though gratitude requires us to own the helps we have received from chemistry, whence we have been supplied with some good and well-adapted medicines to answer indications, amongst which the infusion of crocus metallorum, the vomitive under consideration, is no contemptible one; so that for this reason chemistry is to be held a very useful art, provided it be restrained within the bounds of pharmacy: yet they are guilty of a fault, or at least a mistake, who work their imagination up to such a pitch, as at length to suppose the chief deficiency of medicine to be a want of efficacious remedies, only procurable from chemistry. Whereas, whoever considers the matter thoroughly will find, that the principal defect in the practical part of physic proceeds, not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answered. For an apothecary's apprentice can tell me, in a very short time, what medicines will purge, vomit, sweat, or cool; but a man must be much conversant in practice

to be able to inform me, as certainly, which is the properest time of administering any particular remedy, in all the different stages of diseases, and throughout the course of the cure.*

24. And, in reality, I am fully persuaded, that nothing tends more towards the forming a true judgement of this, than an accurate observation of the natural symptoms of diseases, and the medicines and regimen which appear from practice to be beneficial or detrimental. From a careful comparison of all these things together the nature of the distemper appears, and the curative indications are much better and more certainly deduced, than by endeavouring to find out the nature of any determinate concrete principle of the body to direct myself by. For the most curious disquisitions of this kind are only superficial reasonings, artfully deduced, and cloathed in a beautiful dress, which, like all other things that have their foundation in the fancy, and not in the nature of things, will be forgot in time; whereas those axioms which are drawn from real facts will last as long as nature itself.

25. But though all hypotheses founded in philosophical reasonings are quite useless, since no man is possessed of intuitive knowledge, so as to be able to lay down such principles as he may immediately build upon, yet when they result from facts, and those observations only which practical and natural phænomena afford, they will remain fixed and unshaken: so that though the practice of physic, in respect of the order of writing, may seem to flow from the hypotheses, yet if the hypotheses be solid and true, they in some measure owe their origin to practice. To exemplify this remark: I do not use chalybeates and other medicines that strengthen the blood, and forbear evacnants in hysteric disorders (unless in some particular cases, where I rather exhibit opiates) because I first took it for granted, that these complaints proceed from the weakness of the animal spirits: but when I learnt, from a constant observation of practical phænomena, that purgatives always increased the symptoms, and medicines of a contrary kind ordinarily quieted them, I deduced my hypothesis from this and other observations of the natural phænomena, so as to make the philosopher in this case subservient to the empiric. Whereas to have set out with an hypothesis would have been as absurd in me, as it would be in an architect to attempt to cover a house before he had laid the foundation, which only those who

* The latter part of this section is replete with good sense. As "proper words in their proper places" are said to constitute the perfection of style in writing, so proper remedies given in their proper times, and in their proper doses, constitute the greatest extent of skill in medicine.

build castles in the air have a privilege of doing, as they may begin at which end they please.

26. But to resume our subject: whatever passages those are through which the water passes from the cavity of the belly into the intestines, I am sure that the vomiting occasioned by the above-mentioned emetic dose powerfully evacuate it, both upwards and downwards. For after the second or third puke, the waters do not seem to be forced out so much by the secretory virtue of the medicine, as to run with a full current, the obstruction being in a manner broken down, and the sluices opened, as manifestly appears by the frequent impetuous evacuation of the waters in the intermediate spaces of vomiting.

27. A poor woman, about fifty-five years of age, begged my assistance in August last. She had long been afflicted with an intermittent fever, and afterwards lain in prison three years: she had suffered much from cold, and her belly was more swelled than I had ever seen any person's before. I gave her an ounce and half of the infusion of crocus metallorum for three days running, and afterwards every other day, as her strength would bear, till she had taken six doses. The first puke occasioned a total suppression of urine, which she afterwards voided sometimes, though very rarely, by intervals; and the oftener the vomitive was repeated, the more water usually came away, and, towards the end of the operation, both upwards and downwards. But after the third dose the swelling began to fall, and in a fortnight her belly appeared to be shrunk a yard, by the thread with which I had ordered it to be measured at first, and she assured me that she had computed she had voided several gallons of water. This enabled her to lay her head upon the pillow, and turn from side to side, as she pleased, whereas before she was constrained to sleep in an upright posture, for fear of being suffocated by the weight of the waters. But the vomits, by their violent operation, raised the vapours so much, as to render their farther use unsafe, whilst, notwithstanding, the remaining swelling of the belly, and the motion of the waters which she perceived upon turning herself in bed, and likewise the pits in the legs, which kept depressed after any thing was pressed against them, fully manifested that there was still much water in her belly; for these reasons, I say, I was forced to finish the cure with purgatives. Accordingly, I afterwards prescribed either the above-mentioned purging potion, or some other hydragogue, seldomer or oftener, as her strength and the vapours would permit; for purgatives do in some measure cause hysteric disorders, though of a gentler kind, than vomits ordinarily do. I continued this method till she seemed to be recovered.

28. During the course, the following remarkable particulars happened. On the intermediate days of purging she sometimes

voided water plentifully downwards, and towards the latter end, by urine also, to the quantity of a gallon in a day, though I allowed her only a pint and a half, or a quart of liquor, during that space of time; so that all the passages seemed to be open.* 2. Towards the conclusion of the cure, the purgative raised the vapours, and the belly swelled much towards the breast, as if it had been filled again with water, which yet I knew could not be, because she drank so little, and consequently that the swelling proceeded only from flatus, occasioned by the hurry raised by the purges; and the event verified my opinion. For though she parted with a gallon of water in a day when she purged, yet her belly soon began to swell upwards, causing a difficulty of breathing, and did not fall till the disorder occasioned by the purgatives was gone off, and the body had recovered its natural state and rest; then the swelling and other symptoms vanished suddenly, and returned not till they were again occasioned by the succeeding purge. 3. Lastly, though this woman, who was above fifty years of age, had not had her menses for several years past, they now flowed again violently, and this discharge coming upon the preceding evacuations, greatly increased the number of hysteric symptoms, viz. the severe pain in the back, in the region of the spleen, and in the head, joined with a severe cough. And farther, though it might seem highly probable that but little water remained in the body, after so large a quantity had been discharged upwards and downwards, and by urine likewise, yet the belly continued as much swelled as it usually was before any evacuation had been attempted. In order, therefore, to quiet these motions, which made her uneasy for a week after the last purge, I was constrained to give an ounce and half of diacodium, for four nights running, and to order the dose to be repeated in three hours, in case she got no rest; and by this means these symptoms were quieted, and the swelling vanished.

29. In the mean time, it must be noted, that if the belly be not much swelled, the waters are not so readily evacuated by the infusion of crocus metallorum, as in case of a large swelling thereof; for the very bulk of the water, whilst it is agitated and shaken by the operation of the vomitive, wonderfully promotes its own evacuation, so that for this reason, unless the belly be considerably swelled, it is best to rely entirely on cathartics.

* The indiscriminate prohibition of the use of liquids, and a plentiful indulgence of them in dropsies, are alike improper. The same rule should govern their exhibition, that is observed in fevers. Where the pulse is active, liquids should be taken sparingly, but in dropsies of feeble morbid action, or of debility below par in the blood vessels, they are safe, and often when taken in large quantities act upon the body by the stimulus of distention, and thus give tone to the system.

30. There is another pretty common and simple medicine, which cures the dropsy in the same manner as the emetic; it is made by boiling three handfuls of the inner bark of elder in a quart of milk and water to a pint, half of which is to be taken morning and night every day, till the cure be completed. This medicine works upwards and downwards, like the infusion of crocus metallorum, and therefore cures the distemper in the same manner, and not by any specific virtue: for in case it does not vomit or purge at all, or but gently, it does no service; but if it operates effectually either way, and especially both ways, it proves an admirable medicine in the dropsy.

31. But, in reality, it is well worth noting, and a common case, that water is deposited in the legs, thighs, and even in the belly, which nevertheless must by no means be evacuated either upwards or downwards. As for instance; 1. in case a swelling of this kind succeeds a consumption of long standing; or 2. proceeds from the putrefaction and disorder of some of the bowels; 3. from poor weak blood; 4. old fistulas in the muscular parts, accompanied with a considerable discharge; 5. great weakness, and an immoderate evacuation of the juices and spirits by a salivation, sweating, or purging; or 6. from too slender a diet in the cure of the venereal disease. In these and other disorders arising from such causes, purging not only avails not, but increases the distemper by farther weakening the cure of the blood; so that in these cases the tone depends entirely upon strengthening the blood and bowels in the most effectual manner.* And, amongst other things of this kind, besides the strengthening medicines hereafter to be enumerated, experience hath taught me that this intention is admirably answered by change of air, and exercise suited to the strength of the patient; the spirits being hereby revived, and the excretory organs restored to their proper functions.

32. There are other cases, likewise, where the waters are not to be discharged by vomiting or purging; for instance, in weak constitutions, and hysteric subjects, they cannot be evacuated by purgatives, and much less by vomitives, but are to be carried off by diuretics. Several of this kind are extolled in the writings of physicians, but the most, if not the only efficacious ones, in my opinion, are those prepared from lixivial salts, from whatever plant the ashes be obtained. But as broom is easily procurable, and much esteemed in this disease, I generally order a pound of the ashes of it to be infused cold in two quarts of Rhenish wine, with one or two pugils of common wormwood, and prescribe four

* Here we behold our author shaking off the fetters of nosology, and prescribing for the *state of the system*, by forbidding purges in dropsies of feeble morbid action.

ounces of the filtered liquor to be taken constantly every morning, and at five in the afternoon, and at night, till the swelling disappears; and by this remedy alone I have known this distemper cured, in persons of too weak a constitution to bear purging, when the case was judged desperate.*

33. 2. To proceed now to the second intention: after the waters, whence this disease immediately proceeds, are wholly evacuated, in general only half the work is done, inasmuch as the weakness of the blood, whence it originally proceeds, remains to be removed by a long and daily use of heating and strengthening medicines, in order to prevent a fresh collection of water, or, in other words, a relapse. For though young persons frequently recover, after the waters are sufficiently carried off, without any other help, their natural heat supplying the place of the above-mentioned remedies, yet the ancient and infirm, under these circumstances, must have immediate recourse to such simples as warm and strengthen the blood.

34. And here, besides those hereafter to be set down, recourse may be had to such as I have commended above in treating of the gout, whether of the medicinal or dietetic kind, or belonging to the rest of the non-naturals, inasmuch as these two diseases have this property in common, namely, that the same strengthening remedies tend to remove the original cause in both; only wine, which should be wholly refrained in the gout, may be advantageously used in the dropsy for common drink. It must, however, be owned, that as we only learn from the apparent symptoms, and the effects of whatever does good or harm, that both these and several other chronic diseases proceed from the weakness of the blood, and indigestion, we have yet but a superficial knowledge of distempers, and cannot find out their essential differences, and the specific ill qualities of the juices, arising from such indigestions, the common cause of all chronic diseases. Add to this, that we are utterly ignorant of the various peculiar alterations in acute diseases, proceeding from the same cause, namely, the inflammation of the blood. Since, therefore, we have no specifics for these and other chronic diseases, we are constrained to adapt the curative method to the more general cause, rather than the essential nature of diseases; varying the procedure occasionally, conformably to the spontaneous indication used by nature in expelling diseases, or being guided by experience, which teaches the best method of cure in every distemper.

35. Again, in order to answer the intention under considera-

* This remedy is accommodated to the debilitated state of the system, in which vomits and purges are improper.

tion, viz. the strengthening the blood, whether the evacuation of the water be procured by this diuretic medicine, or by purging, or vomiting, in the manner above specified, the patient, if able to purchase it, must be ordered to drink wine, during the course of the cure, after the passages are in some measure opened, and way is made for the water to pass off. Or, otherwise, instead of wine he should drink good strong beer, because all small and cooling liquors, how agreeable soever they may be to the palate, by reason of the thirst which generally accompanies this disease, render the patient more phlegmatic, and increase the water, and for this reason are seldom or never to be allowed. Whereas, contrariwise, strong liquors, excepting distilled spirits, promote the recovery so much, as sometimes to effect a cure alone, in the beginning of the disease, when there is but little water in the belly, and especially if they be impregnated with heating and strengthening herbs. Thus I have ordered persons of low circumstances, who could not purchase better remedies, to infuse a sufficient quantity of horse radish root, the leaves of common wormwood, scurvy grass, sage, the lesser centaury, and the tops of broom in strong beer, and use it for common drink. Persons of fortune may infuse the same ingredients in canary, and drink a small draught of it twice or thrice a day, at proper times, with the above-mentioned medicines: or wormwood wine, if more agreeable, may be used instead of this, taking nine spoonfuls of it, after two drams of the digestive electuary above set down, every morning, at four in the afternoon, and at night. This electuary sufficiently answers this intention, and is much the best strengthening medicine.

36. But it is of great moment in this case to drink very sparingly of small liquors, inasmuch as all of this kind in some measure increase the waters; and some persons have been cured by refraining from potables entirely; for which reason, if small liquors be sometimes indulged, they must be drank very moderately. However, as this disease is generally attended with great thirst, which is farther increased by forbearing small liquors, it may be proper to wash the mouth often with cold water, acidulated with spirit of vitriol, or to hold a few tamarinds in the mouth between whiles, or chew a slice of lemon: but none of these must be swallowed, by reason of their coldness, which is prejudicial in this case.*

* Experience has proved, that the prohibition of liquids is not necessary in this disease. It is often attended with fever, in which case diluting drinks are required to obviate the tendency of the fluids to a morbid acrimony. There are instances upon record in which large draughts of liquids have cured the dropsy. They should be

37. Steel is an excellent strengthener in the beginning of the disease, inasmuch as it warms and strengthens the blood; and for the same reason garlic is very serviceable: I have known the dropsy cured by garlic alone, by the direction of other physicians.*

38. It must be observed, that that kind of dropsy, in which only the legs or the belly swell moderately, does not immediately require to be cured by emetics and cathartics, but frequently yields to the above-mentioned heating and strengthening liquors. It is, however, principally to be noted, that whenever the cure is attempted by strengthening or lixivial medicines only, both rough and gentle purging must be forborne, because purgatives destroy the effects of strengthening medicines, as a person must needs own, who has observed the swelling fall from the use of strengtheners, and increase immediately upon purging. For though whilst we attempt to carry off the waters, it may be proper to give strengthening medicines between times; yet when the cure depends altogether on strengthening the blood, we must not meddle with cathartics.

39. It must also be remarked, that the dropsy is not always cured by answering both indications; viz. 1. by carrying off all the water contained in the belly, and 2. administering heating and strengthening medicines to prevent a fresh collection of water. For it often happens in an ascites of several years standing, that the waters by laying a long time upon the bowels alter their substance, and putrefy them and the neighbouring parts, breed preternatural glands, and form small bladders full of a corrupted serum, and reduce all the parts situated in the cavity of the belly into a kind of putrefactive state, as appears upon dissecting the bodies of those that die of an inveterate ascites. The distemper in this state is incurable in my opinion, but nevertheless, as the physician cannot certainly tell how much the bowels are injured, he ought to do his best to forward the cure by evacuating and strengthening medicines, and not to lose all hope himself, or cause the patient to despond. And it is for this reason his duty to act thus, because in abundance of diseases, when the morbid matter is quite carried off, nature, which perpetually helps us, contrives spontaneously, in a wonderful manner, to expel the pernicious remains of the distemper. Hence every kind of dropsy, how obstinate soever it proves, and how much

copious, or small, temperate, or cold, according to the state of the system, as mentioned in another place.

* Iron in all its usual medical forms, and garlic, are both powerful medicines in atonic dropsies, but hurtful when they are of an opposite character.

soever it may have injured the bowels, may be treated in the same manner as if it was recent.*

40. As to topics, or external applications, according to the best of my observation, they never do much service in this disease. The least pernicious are those which are applied by way of cataplasm or liniment to the belly to discuss the swelling; though I do not see how the waters can be discussed. But there are other things prescribed by some instead of internal medicines, which are so far from being serviceable, that they generally prove detrimental; as ointments made of strong purgatives, and applied to the belly, and blisters to the legs and thighs, to discharge the water when the parts are considerably swelled. But both these applications are unsafe; for by the former, the purgative quality of the ingredients is so deeply fixed in the muscles and membranes, as to occasion an incurable hypercatharsis, or super-purgation; and as to blisters, which empirics commonly apply to the above-mentioned parts, they quite extinguish the natural heat, much diminished already by the stagnation of the water, and thus often cause a gangrene, which is too common an accident in this case. For the slightest wound is very difficultly healed in dropsical subjects, especially in a depending part, because the substance of the flesh in these parts is so surcharged with moisture that the serum flows continually through any passage it finds, and thereby obstructs the healing of the wound. And in my opinion the operation of the paracentesis, commonly called tapping, which some practitioners commend, is not less hazardous, or more successful than blisters.†

* Incysted dropsies of the belly are generally incurable. They may be known by the inequality of the swelling, and by the difficulty of moving the bowels by purges.

† Our author decides too confidently against the operation of tapping. Although it seldom cures, it relieves pain, and protracts life. Our author's objections to blisters to the lower extremities are too general. Where there is any doubt of their safety, punctures in the legs and ancles should be preferred to them. Although foreign to the design of these notes, the editor cannot dismiss this chapter without mentioning several remedies for dropsy, which have lately been introduced into practice with success. These are bleeding, fasting, and fear, in what are called tonic or inflammatory dropsies.—And mercury either as a deobstruent, or sialagogue in such as are attended with visceral obstructions. It is rendered more useful by being combined with squills when given with the former intention. Physicians are not agreed as to the precise state of the system in which foxglove should be exhibited. Perhaps in the intermediate state between inflammatory action in the pulse, and the total absence of morbid action from it, it has been most useful. Its salutary effects have been most obvious in hydrothorax and anasarca.

41. To conclude: Though when this distemper is become a true ascites it has always been held incurable, it will nevertheless be found as certainly curable, provided it be treated according to the method above delivered, and the bowels be sound, as several other diseases that are ordinarily esteemed less dangerous.

42. But if any one should find fault with these remedies, as being simple and evidently artless, I may with more reason reprove him for his vicious turn of mind, in exclaiming against curing other persons with such simple medicines, when he would wish to be cured himself, or have his wife, or children cured, in case of sickness, by the simplest and cheapest remedies. To which we may add, that he exposes his weakness by making so trifling an objection, as the lustre and excellence of the art of medicine are not so clearly seen in elegant prescriptions, as in curing diseases.*

43. These are the observations I had to communicate on these two diseases, the gout and dropsy, and I believe I shall hardly meddle with any others. And as to the works I have already published, if a person will only give them a single reading, I am sorry I should be the means of making him lose his time; but if he will peruse them often, and commit them to memory, I dare say he will reap such advantage from them as may in some measure equal my wish, and the great pains I have been at, in making and compiling them. And, indeed, the faithfulness wherewith they have been delivered, can only be learnt by being conversant in practice, and as accurate and diligent an observer as I have been. But if, in the few things I have written, I have kept close to nature, without embracing the opinion of any man, though of the greatest eminence, I am persuaded the judicious part of mankind will not condemn me, who cannot but know, that the improvement of medicine is alike obstructed by two sorts of men. The first are those who do not at all contribute to improve the art they profess, but hold those in contempt who do so in the smallest degree; and these men screen their ignorance and idleness with the specious pretence of an extraordinary respect for the ancients, from whom, they contend, we ought not in the least to depart.

* There can be no doubt but great effects take place from little causes in medicine as well as in most of the affairs of human life. There should always be a fitness in the remedy that is administered, to the susceptibility of the system to receive its impressions. It is from an exact relationship between both, that parsley and water-melon seed tea have sometimes cured dropsies, and that five drops of laudanum have induced sleep, when twenty would have induced wakefulness, and thirty delirium.

44. But why do we own that all other arts, which are of less importance to mankind, have been considerably improved, without doing any injury to the ancients; and hold physic alone to be entirely perfect? Could not the inventors of the surer way of sailing, now practised, try the use of the compass, which succeeds so well, without contemning the ancient mariners, who being less skilful directed their course by observing the stars, and the windings of the land? Or why must the accurate and perfect art either of building ships or commanding them in engagements, in which the inhabitants of the western parts of Europe are best skilled, be a reflection to those ship-carpenters, who built the fleets that engaged at Actium; or an Augustus and Mark Anthony, who were such great commanders both by sea and land? Besides, there are almost numberless examples of things discovered by the moderns, which eminently excel the inventions of the ancients, the inventors whereof have no greater right to lessen our opinion of the ancients, than a son, who by his prudent management and industry improves his inheritance, has to lessen that of his father.

45. There is likewise another kind of men, who out of vain affectation to pass for persons of superior understanding, plague the world with speculations, that do not at all contribute towards the cure of diseases, but rather tend to mislead, than to direct the physician. It should seem that nature has given these men wit enough to reason in a superficial manner about her, but denied them judgment to teach them that all the knowledge of her is to be had only from experience; the human mind being restrained to the narrow limits of knowledge derivable from the senses. Whence, though a man may become as wise as his state will allow, yet no one will ever attain to be a philosopher, at least, in the degree that great name imports. But all the philosophy of a physician consists in searching into the history of diseases, and applying such remedies as experience shews to be curative thereof; observing, as I mentioned elsewhere, the method of cure, which right reason, founded on the trite and natural way of thinking, and not on vain speculation, points out.

POSTSCRIPT,

TREATING OF THE CAUSES, SIGNS, AND CURE OF THE WINTER FEVER.

1. WITH the reader's leave, I will here subjoin an observation of moment, concerning the discovery and cure of fevers, which escaped my memory, or otherwise had been mentioned in a proper place. I have found a certain fever prevail from the beginning of winter to the beginning of spring, which, both in the symptoms and method of cure, manifestly differs from the then reigning stationary, or epidemic fever of the general constitution, and is therefore to be reckoned amongst those fevers I call intercurrents.

2. It seems to proceed from the coldness, density, and moistness of the air, whence the pores of the skin are closed, and the blood, from an obstructed perspiration, loaded with a copious serum, which by its long continuance in the vessels becomes prejudicial, putrefies, and easily raises a fever upon taking cold, or from some other slight cause. And if there be much morbid matter, it occasions such a fever as we have described, under the title of the bastard peripneumony. But if there is only a small quantity of morbid matter, it only produces the symptoms I proceed to enumerate.

3. 1. Paroxysms of heat and cold succeeded alternately for a day or two after the beginning of the fever; 2. a pain in the head and limbs, and an universal restlessness accompany it; 3. the tongue is white; 4. the pulse much the same as in healthy persons; 5. the urine turbid and high coloured; and 6. the blood like that of pleuritic persons; 7. it is also generally attended with a cough, but not with such a difficult respiration, straitness of the breasts, and so violent a pain in the head in coughing, as ordinarily happen in a bastard peripneumony. Hence this fever has none of the distinguishing and capital symptoms of a peripneumony, though it differs from this distemper only in degree: I call it the winter fever.

4. Though this fever, in the beginning, is only attended with the symptoms proceeding from taking cold, yet abundance of pernicious symptoms arise from treating it in an improper manner, which at length prove mortal. For if the patient be confined in bed, and tormented with cardials to raise sweat, and carry off the fever, which however is seldom effected, it is frequently accompanied with a delirium, a lethargy, a weak and irregular pulse, a dry tongue, and an eruption of red, and sometimes livid spots. These and the like symptoms, though they

are reputed by some to proceed from the malignity of the disease, as they affect to term it, are in reality to be ascribed to ill treatment; for this fever being naturally highly inflammatory, cordials, and lying always in bed, add to the inflammation of the blood, which hurries and disturbs the spirits, and occasions a translation of the morbid matter to the brain, and of course increases all the symptoms.

5. To cure this fever, I endeavour to make a revulsion of the copious serum collected by the diminution of insensible perspiration in the winter, by bleeding, and to carry it off by repeated purgation. With this view, as soon as I am called, I order nine or ten ounces of blood to be taken away from the arm; and the next day I exhibit my common purging potion.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of water to leave three ounces of strained liquor, in which dissolve manna, and solution of syrup of roses, of each an ounce; mix them together for a purging potion, to be taken betimes in the morning.

I repeat this potion twice more, interposing a day between each purge, provided all the symptoms do not go off before. And in the evening after the operation I give an ounce of syrup of poppies, for an opiate. On the intermediate days of purging, if the patient has a cough, I prescribe the pectoral decoction, and a linctus made of fresh-drawn oil of sweet almonds, syrup of maiden-hair, and syrup of violets mixt, to be taken between whiles. And to allay the excessive heat of the blood, if the fever be very violent, I prescribe an emulsion of the cold seeds, and also the following julap:

Take of the distilled waters of water-lily, purslain, and lettuce, each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them together for a julap, a draught of which may be drank at pleasure.

6. In the mean while I order the patient to keep from bed in the day-time, and to forbear flesh; but after the first or second purge, I allow him a draught of thin chicken broth now and then. It must however be noted, that if any violent symptom, as a difficulty of breathing, or a sharp pain in the head on coughing, shews that this distemper nearly resembles a bastard peripneumony, both bleeding and purging must be repeated at proper intervals, till the symptoms vanish entirely; and the patient is to be carefully treated according to the method laid down in our discourse on that disease. But the fever under consid-

ration very seldom proves so violent, as to require any farther evacuation after bleeding once, and purging thrice.—But enough of this, which, however, I thought proper to mention, that this winter fever might not be reckoned a stationary, or an epidemic fever of any general constitution; being certain abundance of persons have lost their lives, for want of attending to, or knowing this particular.*

* The winter fever described in this chapter accords with the cattarrh from the sensible qualities of the air which is common in the winter and spring months in the United States. The remedies advised by our author are such as are employed with success in our country. Too much care cannot be taken to render the cure complete, and to tru t no part of it to nature. The great increase of pulmonary consumptions in the United States is occasioned chiefly by neglected or half cured catarrhs.

SCHEDULA MONITORIA:

OR

AN ESSAY ON THE RISE OF A NEW FEVER.

To which are added,

TWO DISSERTATIONS,

ONE, ON THE PUTRID FEVER HAPPENNING IN THE CONFLUENT
SMALL POX;

AND THE OTHER, ON VOIDING BLOODY URINE FROM
THE STONE IN THE KIDNEYS.

TO

DR. CHARLES GOODALL,

FELLOW OF THE COLLEGE OF PHYSICIANS.

AS soon as I came to a resolution of publishing my late remarks on the fever of the present constitution, I thought myself obliged to dedicate the performance to you, principally, for two reasons. The first is, because you are my intimate friend, and have constantly defended me against all my opponents; not so much for my own sake, as out of an inherent generous disposition, and great integrity of mind, which induced you to support me in what you knew was truth, though at a time when most of the faculty exclaimed against me.

I ought not however to be, nor indeed am I, offended with them; for as many vile pretenders to the art of medicine, by extolling their fanciful speculations, in order to increase their reputation, have so frequently imposed upon mankind, it was altogether becoming wise and ingenious men not to admit hastily, and without a previous examination, the particulars delivered by me, which were very opposite to the received method of practice. Notwithstanding this, as I am not less indebted to you, I judge

it my duty to make you a public acknowledgment ; gratitude being the distinguishing mark of a great and noble soul.

The other reason of my addressing this treatise particularly to you, is the intimate acquaintance and correspondence which have existed between us for several years, whence you must needs be the best judge of the pains I have taken to collect the observations I have already published, relating to the history and cure of various diseases. And though they were printed separately, and at the distance of some years from each other, according as I came at the knowledge of them, yet they are, in my opinion, so deficient and imperfect, that I ought rather to be ashamed of, than expect any reputation from them. But this may be at least pleaded in my behalf, that though the space of thirty years, which I have diligently employed in observing diseases, should seem sufficient to give a person a completer knowledge of them than I have attained, yet I scruple not to affirm, that though the same compass of time is more than enough to perplex the mind with speculative and fictitious reasonings, borrowed from books, which contribute no more to the cure of diseases, than painting does to the improvement of navigation, yet four times the number of years would be too little even for a physician in full practice, to carry every branch of medicine to perfection. I have used my best endeavours to collect the most accurate observations and sent them to the press without delay, that the public might immediately reap the benefit of them, in case they contained any thing of use : and having thus done my duty, my mind is at rest, and I am not at all solicitous what receptions my writings may meet with. To this give me leave only to add, that as a person who does not esteem them will do me no prejudice, so, whoever gives them but a single reading, will be but little the better for them.

But enough of this : and now, worthy Sir, let me intreat your kind acceptance of this performance, which I intend as a public acknowledgment of the great respect I bear you, in which others also join with me, who are less acquainted with your merit than I am. As I have not the least dependance upon you, I cannot justly be supposed to flatter you, by openly professing as I do (to speak within compass) that there is not a better physician living, and that I never knew an honester man.

It is my wish, that you may outlive me many years, and be at the head of the profession, not so much to raise a fortune for your heirs, (which in comparison with the subsequent reason, betrays more of the brute than the man) as to teach mankind the methods of overcoming those difficulties in curing diseases, which have hitherto perplexed the art of medicine, and hindered its improvement. And, in order to this, you may if you think fit, build upon the foundations I have laid, but yet, so as to correct,

with your usual humanity, the mistakes I may possibly have made in my observations on the history and cure of any particular disease, when any such shall appear manifest to you from a long course of experience. Nor will this be doing the least injury to the memory of one after his decease, who in his life time had nothing more at heart than the improvement of medicine, by whomsoever it was effected, not so much, indeed, by learned discourses on the nature of distempers (of which we have already too many) as by a certain and genuine method of curing them. Adieu, worthy Sir, and continue your friendship to

Your most obliged humble servant,

THO. SYDENHAM.

SCHEDULA MONITORIA:

OR

AN ESSAY ON THE RISE OF A NEW FEVER.

1. **THOUGH** my declining age, and a constitution much broken by long illness, might justly excuse me from any great application of mind, yet I cannot forbear my endeavours to contribute towards the health of others though at the expence of my own, by advertising my countrymen of the entrance of a new constitution which has given rise to a new and very different kind of fever from those which lately prevailed.

2. It must be remembered that intermittent fevers began first in autumn, in the year 1677; and increased daily, and became epidemic till they came to their state or height; and afterwards gradually decreased, so far as in the latter years of this constitution to appear so seldom, that they could scarce be reckoned epidemic. And for this reason it must also be observed, that the two last years of this constitution, now in its declension, were respectively attended with a very severe winter, especially the former, viz. in 1683, in which the cold was sharper, and lasted longer than the oldest person living remembered it had done before: for the Thames was frozen over so hard, as to bear the weight of carts, and booths with different sorts of merchandize, and vast crouds of people. Though the cold was neither so severe, nor lasted so long, the following year, namely, in 1684, yet, as soon as it began to thaw in February 1685, the fever I intend to treat of here appeared, which I esteem a new sort of fever, and altogether unlike the fever of the eight foregoing years.*

3. Now, whether the change of this constitution is to be ascribed to the alteration of the manifest qualities of the air, which happened during these two winters, I know not, as having observed that no alteration of the sensible qualities of the air, how-

* The connection of a great or sudden thaw, with the production of fevers is taken notice of by Dr. Huxham, and has been observed by other physicians.

ever different, have produced a new species of epidemic diseases ; and that a certain succession of years, though they have differed from one another in their outward appearance and temperature, have, notwithstanding, all conspired in producing the same species of stationary fevers. Having, therefore, maturely considered these particulars, I concluded, as I have elsewhere remarked, that the change of a constitution depends principally on some secret and hidden alteration in the bowels of the earth, communicated to the whole atmosphere, or on some influence of the planets.* It must, nevertheless, be noted, that upon the departure of the depuratory fever some time ago, a severe frost happened in the beginning of winter in 1664, which abated not till towards the middle of March, and was soon succeeded by a pestilential fever, and, in a short time afterwards, by the plague itself.† But however this may be, the fever under consideration, which began at the above-mentioned period of time, namely, in February 1654, has spread itself all over England, both the last and this, had been much more epidemic in other places than at London.

4. When I was first called in this fever, I firmly believed it was not one of that species of fevers I call stationary, but rather of the class of intercurrents, which happen promiscuously in most years : so that I esteemed it the same kind of distemper as the bastard peripneumony, which I have described above ; with this difference only, that this fever was sometimes not attended with those symptoms which characterized and distinguished that disease ; as 1. a violent cough ; 2. a severe head-ach in coughing ; 3. a giddiness upon the least motion, and 4. a great difficulty of

* The former of these opinions of our author's has been revived in modern times. It is certain the whole animal, including fish and vegetable kingdoms, feel the influence of that state of the atmosphere which produces malignant fevers in the human species, and to the mixture of some adventitious matter in the air whether derived from the bowels of the earth or not, must be ascribed the return of those fevers at uncertain periods, their spreading in certain districts or countries, and their sudden cessation, while the sensible qualities of the air, and the local circumstances of the places where they prevail, with respect to heat, moisture and exhalation, continue to be exactly the same.

† The long and cold winters of Russia and Sweden, often impart a malignant character to their vernal fevers. The plague preceding the long duration of the cold weather in England in the year 1664, probably by its sedative and debilitating effects, added to the predisposition of the citizens of London to receive the plague from the putrid exhalations formerly mentioned from Mr. Woodal, co-operating with our author, inflammatory constitution of the atmosphere.

breathing ; all which are the general attendants of a bastard peripneumony. But as my bookseller pressed me, at that time, to give a new edition of my writings, I judged it proper to publish my conjecture by way of postscript, in which I now find I was mistaken ; having, indeed, been led into it by the manifest likeness there appeared between this fever and the bastard peripneumony, which happens now and then every winter : but in the beginning of summer, which season commonly terminated those peripneumonic fevers, this fever was still continued, whence, soon perceiving my error, I was fully persuaded that this fever was to be referred to a new constitution.

5. This fever, from the justest observation I could make, was generally accompanied with these symptoms. 1. Intervals of heat and cold succeeding each other, and 2. frequently a pain in the head and limbs ; 3. a pulse not much unlike that of a healthy person ; 4. the blood taken away commonly resembling pleuritic blood ; 5. a cough mostly, which, with the other concomitants of a mild peripneumony, goes off so much the sooner, as the disease comes on at the greater distance from winter ; 6. sometimes a pain in the neck and throat in the beginning of the illness, but not so violent a one as in the quinsy ; 7. though the fever be continual, yet it often increases towards night, as if it were a double tertian, or a quotidian ; 8. lying always in bed, though with a few cloaths on, is dangerous ; for the fever being thereby translated to the brain, a coma or phrensy soon succeeds. And to speak the truth, there is so great a tendency to a phrensy here, that it frequently comes on spontaneously of a sudden, without any such occasion, but rises not to such a height as it does in the small pox and other fevers : the patient being rather calmly, than furiously delirious, and talking wildly between whiles. 9. Petechiæ, or eruptions, frequently appear, occasioned by an unseasonable use of cordials, and a hot regimen, and in young persons of a warm constitution purple spots, which are certain signs of a considerable inflammation both in this and all other kinds of acute diseases ;* 10. and sometimes such spots as are termed military eruptions come out all over the surface of the body, appearing much like the measles, only they are redder, and when they go off, do not leave branny scales behind them, as in that disease : though these eruptions do sometimes come out spontaneously, yet they are frequently driven out by the warmth of the bed, and cordials. 11. The tongue is either moist or dry, according to the regimen which has been

* In this sentence, as well as in other parts of this work, our author derives petechiæ from an excess of inflammatory action induced by nature and art. The notion of their depending upon the putrefaction of the blood is altogether hypothetical.

used; when dry, it is brown in the middle, and white round the edges; but when moist it is white and foul. 12. Sweat, likewise, depends upon the regimen; for if that be over-heating, it is in a manner viscous, especially about the head, and though it flows plentifully and universally, affords little relief; whence it follows, that such sweats are only symptomatic, not critical. The raising a sweat by medicine in the beginning of the distemper ordinarily translated the morbid matter, if not to the head, at least to the limbs. But when the fever has seized the head, and the phrensy prevailed, the signs of the former vanish, only the pulse beats sometimes quick and sometimes slow; at length, however, when the spirits are exceedingly hurried by wrong management, the pulse intermits with startings of the tendons and death soon follows.

6. As to the cure: those signs of the peripneumony which accompanied this fever at its rise, soon after the beginning of winter, convinced me, as I said before, that it was to be referred to the class of peripneumonic fevers; and therefore I had immediate recourse to that method which I formerly recommended in the cure of a bastard peripneumony, in the postscript to my epistle on the dropsy. And, indeed, this method agreed pretty well with the few patients which my ill state of health suffered me to attend, and with others, also, who used it upon my recommendation. Whatever motive it was that induced me to follow this method, I have since considered the symptoms of this disease, and the temperateness of the last year, which succeeded the two hard winters (especially of the winter season, which, in reality, on account of its mildness, scarce deserved the appellation) and it appears manifest to me, that this fever is only a simple inflammation of the blood, and consequently, that the curative indications are to be entirely levelled at removing the inflammation by a suitable method, and medicines.

7. In order to this, I first direct ten ounces of blood to be taken away from the arm, and in effect, though the blood in this fever generally resembles pleuritic blood, yet it does not well bear repeated bleeding. But if a difficulty of breathing, a violent pain in the head in coughing, and other symptoms of this kind, shew the great tendency of this disease to a bastard peripneumony, bleeding and purging are to be repeated, till the symptoms entirely disappear, as we have intimated above, in treating of the latter distemper: and this I would have carefully noted.

8. In the evening I lay a blister between the shoulders, and next morning exhibit this lenitive potion:

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together, in enough spring-water, to three ounces; in the strained liquor dissolve manna and solative syrup of roses, each an ounce:

mix all together for a draught, to be taken early in the morning.

I order this draught to be repeated every other day, till three have been taken, and the following, or a like opiate, to be given at bed time after the operation.

Take of the distilled water of cowslips, two ounces; syrup of white poppies, an ounce; fresh lemon juice, two spoonfuls; mix the whole for a draught.

This I do to prevent a coma's coming on, from the disturbance of the spirits, which purging often occasions, by the tumult it raises in the blood and juices of persons in fevers, which symptom yields to opiates, though they seem to promote it. For this reason, as I durst not venture to give a purge in the comatous fever of 1673, I persisted in the use of glysters, well knowing, that purgatives did then immediately cause a coma, which might perhaps have been prevented, if I had thought of administering an opiate after the operation of a cathartic.*

9. But on the intermediate days of purging an opiate must not be given at bed-time, for fear of stopping, or at least checking the operation of the purgative to be taken the next day, which usually happens, though it be given late. It is a rule with me, in this, or any other epidemic fever, to forbear purging in the beginning or state of the disease, unless bleeding† has been previously used; and for want of attending to this rule of practice, or from acting contrary to it, abundance of persons have been destroyed, especially children, as I have elsewhere observed by way of caution.

10. It must, nevertheless, be noted, that though all the above-mentioned evacuations ought in general to be used in the cure of

* The account given by our author of his having prevented coma by means of opium, shows the relative operation of that medicine to the state of the system. In an elevated state of the blood vessels of the brain above the par of health, the same dose of opium will produce delirium, which in a state below that standard will remove coma, and produce healthy wakefulness. This is one, among many other instances mentioned in the dedication of this work, in which our author's facts relative to the use of opium, accord exactly with the modern belief of its belonging to the class of stimulating medicines.

† The practice of our author in forbearing to purge in the beginning of this fever, before he advised bleeding, deserves to be imitated in all those cases in which it is indicated. The bleeding acts by creating a susceptibility of action in the stomach and bowels, to the stimulus of purges. It creates likewise a similar susceptibility to the operation of vomits, and to the action of cool air and cold water upon the body.

this fever, yet young persons and children often recover soon after being once blooded and purged, and require no more purging, the fever being conquered by the first cathartic; whereas, on the contrary, it is sometimes necessary to purge oftener than we have intimated above; for it happens, though not frequently, that the patient relapses in a few days after recovering by this method, occasioned by a fresh supply of febrile matter, which, however, is soon carried off by repeating the purgative a fourth time: but a return of this fever, when it is treated by this method, seldom happens, unless it be caused by the aphthæ, succeeding the former fever, now come to their height; which fever is, in reality, only symptomatic, and often accompanied with a hiccup at intervals, that continues also some days after the fever is gone off, and at length ceases spontaneously, as the patient recovers strength; which is well worth noting, inasmuch as the hiccup happening at the declension of this fever is no way dangerous, unless several medicines be over-officiously and ineffectually administered, in which case it proves fatal: but both the aphthæ and hiccup, or either of them, if they do not go off spontaneously, but prove obstinate, readily yield to the bark; an ounce of it being made into an electuary, or pills, with a sufficient quantity of the syrup of red poppies, and taken in the manner I formerly directed in my epistle to Dr. Brady, drinking a draught of whey after every dose: I have found this the surest medicine in this case, provided it be not rendered ineffectual by the patient's keeping his bed, which too often happens.

11. On the intermediate days of purging, I sometimes prescribed the following, or the like remedies:

Take of the conserves of wood sorrel and of hips, each an ounce; conserve of barberries, half an ounce; cream of tartar, a dram; syrup of lemons, enough to make them into an electuary; of which the quantity of a nutmeg is to be taken thrice a day, with six spoonfuls of the following julap after each dose:

Take of the distilled waters of purslein, lettuce, and cowslips, each three ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce: mix the whole together for a julap.

Or,

Take of spring water, a pint; the distilled water of roses, lemon juice, and fine sugar, each four ounces; boil them together over a soft fire, till the scum be quite cleared away. Let three ounces of it be taken at pleasure.

I add no spirit of vitriol to any of these medicines, though it is very cooling, by reason of its remarkable stypticity, whence it is improper in all diseases requiring to be cured by purgatives; to say nothing here of the mineral nature of this spirit.

12. It frequently happens, especially in the declension of this fever, that the patient, when treated in this manner, sweats now and then spontaneously in the night, which greatly abates all the symptoms; but notwithstanding, as such sweats are not to be depended on, the above mentioned method must by no means be discontinued, because, if those sweats should be promoted longer, the fever, which had been in some measure checked by the preceding purgatives, will increase again. For, if the sweat be prolonged beyond that space of time, wherein the febrile matter, prepared by due concoction, is entirely carried off, the following sweats will do nothing but raise a fresh inflammation. Hence, though those sweats which flow spontaneously might perhaps be critical, with respect to the expulsion of the febrile matter to be carried off, yet the subsequent sweats may be only symptomatic, and so do more mischief than good. In short, the gentle warmth of the bed in the night seasonably favours the sweat which flows spontaneously at that time, and for this reason, the patient should have no more, nor thicker cloaths laid on him than he usually had when in health, and no heating medicines should be given to him, only let him lie later than ordinary the next morning, and afterwards pursue the methods of cure above delivered.

13. The diet in this case should be water gruel, or barley gruel, and now and then a roasted apple, and after the second purge, weak chicken broth. I order small beer to be drank cold for common drink, and the white decoction, made by boiling an ounce of burnt hartshorn in three pints of spring water, afterwards straining off the liquor, and sweetening it with fine sugar.

14. I have elsewhere observed, that when the patient hath been twice purged, there is no necessity to forbid his eating chicken, and the like food of easy digestion; this indulgence being allowable on account of purging, which otherwise could not be granted. Again, after the last purge, provided the fever be somewhat abated, and not yet entirely degenerated into an intermittent fever, three or four spoonfuls of canary may be given every morning, and after dinner, and again in the evening, for some days, which may promote the recovery of the patient's strength, and prevent the fever fits.

15. As this kind of fever is more apt to seize the head than any I ever yet saw, and cannot be removed thence without great difficulty and danger, I advise my patients to lie without their cloaths only a-nights; but if they are so much debilitated by the disease that they cannot sit upright, I allow them to lie down upon the bed, or a couch, with their cloaths on, and the head a lit-

tle high: neither do I suffer a greater fire to be kept in the room, than they were used to whilst in health.

16. This regimen is not only to be strictly followed from the beginning, in all that have this fever, except in women seized with it a few days after delivery, but must be indispensibly enjoined, when the patient is attacked with a phrensy, petechiæ, purple spots, or any other sign of a violent inflammation, occasioned by an over-heating regimen. For, in this case, neither bleeding, nor covering the patient thinly in bed, nor the use of any kind of cooling liquors, will remove the fever without sitting up in the day time, inasmuch as the heat of the surrounding air, included in the bed by the coverings, puts the blood into too violent a motion, and the supine posture of the body hurries it violently to the head.* But in this fever, when a phrensy comes on from ill-management, it cannot be removed immediately, neither is it safe to attempt the cure by repeated bleeding and purging, beyond the limits prescribed, whereas it will at length go off at its own time, and spontaneously by means of the above-mentioned method. Nothing, however, second the removal of this symptom more than shaving the head, and therefore I always order it, without applying a plaister, but only a cap thick enough to supply the loss of the hair, or at least to keep the head warm. By this means the brain is greatly cooled and refreshed, so as by degrees to be able to overcome the heat occasioning the phrensy.†

17. What hath been said of the phrensy is also applicable to the coma succeeding this fever, in which the febrile matter, as it happens in that disorder, is translated to the head, whence except the whiteness of the tongue, no signs of a fever appear, so that the patient seems perfectly free therefrom. In this disorder, therefore, as well as in the former, purgatives, sudorifics, blisters, and the like remedies, are not only unsuccessfully used, but do much hurt: for such evacuations oftener kill than cure

* Let not the student of medicine be weary in reading our author's injunctions, so often repeated, to advise patients to leave their beds, and to sit up as much as possible, in fevers of great morbid action. The reasons he gives for this advice, were anticipated in a former note. This is not the proper place to take notice of the great advantages which medicine has lately derived from the external application of cold water to the body in fevers, in the different modes of affusion, immersion and ablution, and of the numerous circumstances which should regulate each of them. It is, however, an act of justice due to Dr. Sydenham, to mention that they are all the natural and obvious consequences of the liberal use of cool air, which he introduced as a remedy for fevers.

† Where the patient objects to having the head shaved, the hair should be cut off, or very much thinned.

here. Having, therefore, used the general evacuations of bleeding and purging, the cure of this disorder, though it may terrify the attendants, is to be trusted to nature and time. For though the patient should be afflicted with a stupor for some days, he will, nevertheless, at length recover his health, provided he be not constantly kept in bed, but is suffered to rise in the day time, and lie down on the bed, or couch, with his cloaths on. In the mean time, however, it is proper to shave the head, and, towards the declension of the distemper, to give three or four spoonfuls of canary twice a day: but I have treated of this disorder at large in another place.

18. The physician must not be discouraged by the fever from making the above specified evacuations, though upon feeling the pulse he should perceive a starting, and a convulsive motion of the body, because both bleeding and repeated purging are absolutely required, and do service in some nervous diseases.* To prove this, I shall relate what I have experienced in a certain kind of convulsion, which is usually called St. Vitus's dance, of which I have cured five persons by bleeding and purging at due intervals. And since this disorder opportunely falls in my way, and manifestly confirms the truth of what I have asserted, I will say something concerning it.

19. This disorder is a kind of convulsion, which chiefly attacks children of both sexes, from ten to fourteen years of age. It first shews itself by a certain lameness, or rather unsteadiness of one leg, which the patient draws after him like an idiot, and afterwards affects the hand of the same side, which being brought to the breast, or any other part, cannot be held in the same posture a moment, but it is distorted, or snatched by a kind of convulsion into a different posture and place, notwithstanding all his efforts to the contrary. If a glass of liquor be put into his hand to drink, he uses a thousand odd gestures before he can get it to his mouth; for not being able to carry it in a straight line thereto, because his hand is drawn different ways by the convulsion, as soon as it has happily reached his lips, he throws it suddenly into his mouth, and drinks it very hastily, as if he only meant to divert the spectators. As this disorder appears to me to proceed from some humour thrown upon the nerves, which, by its irritation, occasions such preternatural motions, I conceive

* Experience justifies the use of bleeding and purging in such cases where those startings and convulsive motions occur, not only in the arms, but in the form of hiccups, provided the inflammatory action of the pulse be not reduced. Fevers when they put on these symptoms, are called nervous. It would be more proper to call them tendinous or muscular fevers.

that the curative indications are to be directed 1. to lessen those humours by bleeding and purging, and 2. to strengthen the nervous system. To answer these ends, I use the following method: First, I order seven ounces of blood to be taken away from the arm, or such a quantity, whether more or less, as best suits the age of the patient; next day I give half, or a little more, of my purging potion, according to his age, or his being easier or harder to be purged, and in the evening the following draught:

Take of black-cherry water, an ounce; compound piony water, three drams; Venice treacle, a scruple; liquid laudanum, eight drops: mix them together for a draught.

20. I order the purge to be repeated thrice, with the interposition of a day between each time of taking it, and the opiate to be given always in the evening after the operation. Afterwards I prescribe bleeding and purging, as before. And thus I bleed and purge alternately, till the patient has been blooded three or four times, and purged after every bleeding, as often as the strength will admit: for it is to be carefully observed, that there must be a sufficient space allowed between every evacuation, that the patient may be no ways injured by them. On the intermediate days I prescribe the following remedies:

Take of the conserves of Roman wormwood, and orange peel, each an ounce; conserve of rosemary, half an ounce; Venice treacle, and candied nutmeg, each three drams; candied ginger, a dram; syrup of citron juice, enough to make them into an electuary; of which the quantity of a nutmeg is to be taken in the morning, and at five in the afternoon, drinking after each dose five spoonfuls of the following infusion.

Take of the roots of piony, elecampane, master wort, and angelica, each an ounce; the leaves of rue, sage, betony, germander, white horehound, and the tops of the lesser centaury, each an handful; juniper berries, six drams; the peel of two oranges; slice and infuse them without heat in six pints of canary, and strain it off as it is used.

Take rue water, four ounces; compound piony and compound briony water, each an ounce; syrup of piony, six drams: mix them for a julap, of which let four spoonfuls be taken every night going to bed, with eight drops of spirit of hartshorn. Apply a plaister of gum caranna, spread on leather, to the soles of the feet.

21. According as the recovery advances, the foot and hand grow more steady, so that the patient can bring the glass in a straiter line to his mouth, which certainly shews how much bet-

ter he is. But though, to finish the cure, I do not advise bleeding more than three or four times at most, yet purgative and alterative medicines are to be used till the patient is quite well. And, because such as have once had this disease are very subject to a relapse, it is proper to bleed and purge them for some days about the same season the next year, or a little earlier than it first began. And I can hardly help thinking but the epilepsy in grown persons will yield to the same method, provided the remedies prescribed be properly adapted to the age of the several patients; though, having seldom met with this distemper, I have not yet made trial of it—But this by way of digression.*

22. It sometimes happens in women subject to hysteric complaints, when the cure hath been attempted by the evacuations above specified, that the fever continues even after bleeding and repeated purging. And in this case its continuance is manifestly owing to the commotion of the spirits, occasioned by the evacuations; and, consequently, if there be no signs of a peripneumony or inflammation about the vital parts, the curative indications are only to be levelled at quieting the tumultuary motion of the spirits: for which purpose a sufficiently powerful opiate must be given every night, and hysteric medicines taken twice or thrice a day. Of this kind are pills made of galbanum, asafetida, castor, and similar ingredients, and julaps of the same nature, of which I have set down some forms in my treatise on hysteric diseases. Farthermore, to recruit the strength, and suppress the vapours, it is necessary to allow such food, both of the solid and liquid kind, as is most palatable.

23. We have already observed, that this fever in the preceding, but especially in the current year, increased every day towards night, when a fit came on like that of an intermittent. The physicians, therefore, who had learnt from experience, that all such fevers as did in the least intermit, and those frequently which did not, throughout the course of years, from 1677 to the beginning of the year 1685, certainly yielded to the Peruvian bark; treated this fever with the same medicine. But, however rational this procedure was, it nevertheless did not ordinarily succeed so well as in the foregoing years: for having made the strictest inquiry I could into this matter, I found, that though the bark was given in great plenty, yet it so seldom cured the distemper, that I should rather ascribe the patient's recovery to some happy termination of it, than to the efficacy of the medicine: so entirely it seemed to have lost the effectually curative virtue it was possessed of in the years above specified, at least

* The practice of our author in the disease which he thus briefly described, is followed with nearly uniform success by modern physicians. Where the above remedies have failed, a gentle salivation has been used with success.

in respect of the fever under consideration, which resembles a quotidian;* but in a genuine tertian, or an intermittent that comes every other day, the bark does as much good now as it ever did. Hence it clearly follows, that this fever totally differed from the fevers of the preceding constitution, inasmuch as the bark avails not at all now, and that it is likewise increased by wine, cordials, and other heating things; all which agreed well enough with the use of the bark, and the fever itself.

24. It is farther to be noted, that this fever throughout the summer, especially of the present year, wherein it prevailed, did often shew itself, not so much by the distinguishing signs of a fever, as heat and restlessness, but by gripings, sometimes with, and sometimes without a looseness; whilst notwithstanding the fever of this season lurked under this disguise, in which the inflammatory exhalations of the blood were not driven as ordinarily to the habit of the body, but thrown off inwardly by the mesenteric arteries upon the viscera of the lower belly, or intestines, and sometimes upon the stomach, by the ramifications of the celiac arteries, which exhalations commonly occasion vomiting, especially soon after drinking, or eating. But though this fever lies concealed under the kind and form of the symptoms above enumerated, it must be treated by the general method we delivered above, in the same manner as if it had appeared in its own shape, and that with respect both to bleeding and repeated purging;† only it must be observed, that when the fever affects the stomach so much as to prevent its retaining a draught, the greater pil. cochix must be substituted instead of a lenitive potion, two scruples of which always makes its way through the bowels: but the pills must be taken at four in the morning, so that the patient may sleep after them, and at night an opiate exhibited in a large dose, viz. a grain and half of solid London laudanum, made into two pills, with as much mastich, or eighteen or twenty drops of liquid laudanum, in an ounce of small cinnamon water, or any other generous vehicle. The stomach being by this

* The bark probably failed when this fever assumed a quotidian form, only because it was given prematurely, before the inflammatory action of the blood vessels was reduced by art or expended by nature. It is because a due regard is not had to the influence of different seasons upon intermitting fevers, that physicians sometimes complain of the inefficacy of the bark in curing them. When the system is prepared for its use in intermittents of an inflammatory character, by suitable depletion, it produces nearly the same salutary effects in all seasons.

† Our author adds in this remark to the numerous testimonies he has given, of his knowledge in epidemics, and of his great sagacity in detecting an old disease in a new form and prescribing successful remedies for it.

means strengthened, and not irritated by the smallness of the quantity, will be less apt to throw it up. But if the purging draught and diacodium can be retained in the stomach, they are to be preferred to the above-mentioned pills and the laudanum, because they produce their effect without heating the body so much as the pills.

25. And now having mentioned the gripes, I must admonish my readers of the great danger which I have frequently found attend the prescribing mineral waters in any kind of gripes, looseness, or vomiting, or any other disorder suspected to proceed from a fever. For in a distemper of so subtle and spirituous a nature as a fever is, mineral waters invert the order of nature to that degree in every particular, that instead of the ordinary attendants of a fever, they occasion quite irregular symptoms, and in the mean time contribute not in the least towards the cure of the fever, as I have learnt from a long course of experience.*

26. It must, however, be carefully noted, as it may be a means of snatching abundance of persons from imminent death, that, notwithstanding what hath been already delivered, when the gripes degenerate in a confirmed dysentery (which, besides the gripes, is attended with a discharge of a slimy matter streaked with blood downwards) it is apparently very dangerous to treat the disease by that tedious method, which consists 1. in evacuating the humours, and 2. in smoothing their acrimony; not to mention the internal use of astringent medicines of various kinds and forms, and the injection of astringent and healing glysters between whiles; having learnt from experience that a dysentery is most expeditiously and certainly cured by checking the flux immediately by laudanum: for so violent is this disease, that if the purging be continued when it is confirmed, it is much to be feared it may be increased thereby, and by its wonderful ferment last longer, whatever methods are afterwards used; or, perhaps, prove fatal.

27. For this reason, as soon as I am called to a person in this distemper, I give twenty drops of liquid laudanum in plague water, aqua mirabilis, or the like vehicle, and order the dose to be repeated twice in twenty-four hours; or oftener, if, being given in this quantity and manner, it suffices not to ease the gripes, and check the bloody discharges downwards. But when these grow thicker, which is the first sign of the approaching recovery, and the symptoms are overcome, I reckon it safest for the patient to

* This caution should be extended to all the preparations of iron as well as to mineral waters. They are generally hurtful in febrile diseases.

persist in the use of the above-mentioned medicine morning and night for some days, lessening the number of drops every day, till there is no more occasion for them. It must also be carefully observed, that I order the patient to lie longer in bed after taking the opiate, because an erect posture soon disturbs the head, unless sleep be indulged long enough after it.

28. With respect to diet, if the patient hath been used to wine, I allow him canary well diluted with water, in which a crust of bread hath been boiled; which I order to be kept in readiness for that purpose, cold, in a proper vessel. The white decoction made with burnt hartshorn, boiled in spring water, drank plentifully, is also beneficial in this case. Barley gruel, or chicken broth, a poached egg, or any thing else of easy digestion, may serve for diet in the beginning of the disease. But, afterwards we may rise by degrees to stronger liquors, and a more copious and solid diet, lest too strict an abstinence should cause a relapse, or some other symptoms, the effects of inanition. It must, however, be noted here, that though laudanum alone overcame the dysentery of the present constitution, yet in those years wherein this disease is epidemic, and prevails more than the rest, it should seem proper to use those evacuations, which I have already set down in treating of the dysentery.*

29. I proceed now to mention another case, where a cure can no more be immediately made by that method which suits the fever whence it proceeds, than in the confirmed dysentery just specified. Thus, for instance, the patient is sometimes seized with a chillness and shivering, and fits of heat and cold succeeding by turns, which certainly manifest an approaching fever, violent gripings come on suddenly, occasioned by the speedy translation of the febrile matter to the bowels, and, instead of being blooded and purged, according to our former directions, as he ought to be, he hath recourse to hot medicines, both internals and externals, in order to expel the wind, whence he conjectures the disorder proceeds; till at length the pain increases, and being by its long continuance deeply fixed in the bowels, begins to cause an inversion of their peristaltic motion (whereby, according to the law of nature, every thing should be protruded downwards) and a great inclination to vomiting; the disease now terminating

* There are several histories of epidemic dysenteries upon record, in which all depleting remedies were hurtful, and laudanum and other cordial medicines only were useful. Let us learn from this fact, the necessity of investigating the character of an epidemic every year, with the same care that we would do, if we had never seen it before, previously to our adopting a general plan for its cure. The studies of a physician in this respect should end only with his life.

in the iliac passion. In this case, I say, the physician can pursue the method of cure, which the fever, the primary cause of this symptom requires, no farther than to order a single bleeding in the arm; inasmuch as all purgatives, how often soever repeated, soon become emetic, and by this means increase the inverted motion of the bowels; neither the strongest cathartics, nor the least part of them, being able to force their way through the intestines, and procure a stool.

30. Here, therefore, I conceive it most proper to bleed first in the arm, and an hour or two afterwards to throw up a strong purging glyster; and I know of none so strong and effectual as the smoke of tobacco, forced up through a large bladder into the bowels by an inverted pipe, which may be repeated after a short interval, if the former, by giving a stool, does not open a passage downwards. But if the disorder yields not to this remedy, it is necessary to give a stronger purgative, though the making way to these means be attended with extreme difficulty.

Take of the pills of two principal ingredients, thirty-five grains; sweet mercury, a scruple; balsam of Peru, enough to make the whole into four pills; to be taken in a spoonful of syrup of violets, drinking nothing after them, for fear of their coming up.

If these pills be thrown up, give twenty-five drops of liquid laudanum, in half an ounce of strong cinnamon water, immediately, and repeat the dose in a few hours; but as soon as the vomiting and pain of the bowels are abated by this remedy, give the above-mentioned purge again, for it will be kept down by the laudanum now, and at length finish its operation. If the vomiting and pain, however, should return as soon as the effect of the opiate is worn off, and the cathartic lodge in the body; then, laying aside all hopes of opening a passage this way, we must return to the use of the opiate before described, and repeat it every fourth or sixth hour, till the bowels be quite free from pain, and their natural motion downwards of course restored, when the cathartic, which had hitherto been stopt in the body by the opposite motion of the intestines, will operate in the usual manner; though the repeated use of opiates should seem to have a contrary effect. An instance of this I met with very lately in a gentleman afflicted with a violent iliac passion, which was afterwards succeeded by aphthæ, occasioned by an over-long retention of the morbid humours, and rough purgatives in the habit; but they were readily enough cured by the Peruvian bark, and the frequent use of the following gargarism:

Take of verjuice, half a pint; syrup of raspberries, an ounce; and make a gargarism.

31. But when the passages have recovered their ordinary natural openness, purgatives may be omitted for some days, till the disturbance lately raised in the bowels be entirely quieted, which space of time may be advantageously enough allowed for diluting, cooling, and smoothing the sharp humours; which being done if the least signs of a fever still remain, purgatives must be exhibited every other day, as above directed.—And let this suffice for the cure of this disorder.

32. If a child be seized with this fever, two leeches must be applied behind each ear, and a blister behind the shoulders, and it must be purged with an infusion of rhubarb in beer. And if the fever seems to intermit after purging, give the julap made with the Peruvian bark, above set down, page 251.

33. It is farther to be noted, that though children are as subject to this kind of fever as grown persons, and consequently ought to be cured by the same method; yet less blood must be taken away, according to their age, to which purging likewise ought to be adapted, and perhaps need not to be so often used: the distempers of children and young persons frequently yielding to the first or second purge. Nevertheless, it should be well considered, whether the fever which is treated in this manner does certainly belong to this constitution, or is of a different kind; which ought likewise to be attended to with the same exactness in all constitutions of years. For it is commonly known that children are often seized with fevers from dentition, which are not easily distinguished from those of another kind. And, for my own part, I have been long dissatisfied with respect to the cure of these fevers; nor could I be persuaded, till of late years, that any of those who were committed to my care, were recovered so much by art as by accident, till having been often informed of the success of a medicine not very famous, but rather little esteemed for being in common use, I likewise ordered it, and found it succeeded better than any I had ever experienced before. The medicine I speak of is three or four drops of spirit of harts-horn, according to the age of the child, given in a spoonful or two of black cherry water, or any proper julap, every four hours, to a fifth or sixth time.

34. Children are subject to another very troublesome disorder, which differs much from the fevers of various constitutions of years, and from that last mentioned: It is a kind of hectic, which holds them a long time, and they languish with little heat, a loss of appetite, and a wasting of the whole body.* In this

* This disease is more common in those European countries, where penury of diet is more common than in the United States. Country air and exercise with cordial aliment have been found to be its remedies

case I have recourse to the following plain method: I order two drams of good rhubarb, sliced thin, to be infused, in a glass bottle well corked, in a quart of small beer, or any other liquor which the child uses for common drink, to be drank in the same manner both at meals and other times. And this being finished, I order another quart to be poured on the same rhubarb, and this being also drank, I add a third quart of liquor to it, after which the rhubarb loses its virtue, and the child generally gets well. But lest the first infusion should have too much of the purgative quality of the rhubarb, and operate too strongly, it is better, after having drank half the liquor, immediately to add another pint to the remainder; but no more fresh beer must be afterwards added, till the whole quantity be used.

35. But to return to the fever under consideration, viz. that of the present constitution: it must be carefully observed in this kind of fever, in the same manner as in the rheumatism, and several other distempers, only curable by evacuations, that if we obstinately persist in the use of the above-mentioned evacuations, till the symptoms go quite off, the disease will often prove fatal. For it is not uncommon to find some slight symptoms remain awhile, even after the disorder vanishes, which, notwithstanding, do not endanger a relapse, inasmuch as they go off by degrees spontaneously, as the patient recovers. In effect, these symptoms are frequently nothing more than the genuine product of the repeated evacuations, by which the physician endeavoured to cure the disease, and partly proceeding from the emptiness occasioned by the patient's abstaining from his common food and liquors: all which, when they affect such subjects as are much debilitated, and in a manner worn out with distempers, give rise to vapours, as in women, and manifestly from the same cause, namely, the weakness and low state of the animal spirits. For this reason, therefore, after using such evacuations as are sufficient to remove the disease, a judicious physician ought to forbear the unreasonable use thereof, and wait awhile to see what time will contribute to this end, which frequently proves the best and most successful physician in conquering these slight symptoms; and I have, indeed, often known them go off in the declension of such a disease, without any thing more than an opiate, taken two or three nights running.*

* The whole of this section appears to be alike the result of reason and experience. It is a great attainment in skill to know when to leave off the use of depleting remedies. There are symptoms of morbid action which like the swell of the ocean after a high wind, are attended with no danger, and that should be left to subside of themselves.

36. The method just commended is the best I ever tried in curing this fever; and if it fails of effectually removing it, at least brings it to intermit, and then it always yields to the bark. But as purging, as it is here directed in order to cure this fever, may perhaps seem detrimental to some persons, I assert from experience, that nothing cools so much and so surely, as purging after bleeding, which should be used first in all cases. For though a purge, whilst it operates, may for the present raise a greater commotion in the blood and juices than there was before, and of course increase the fever, yet that mischief will be much overbalanced by the immediately subsequent benefit. For experience shews, that purging after bleeding checks a fever sooner and better than any other remedy whatsoever, inasmuch as it carries off the foul humours whence the fever originally proceeded, which, supposing them not to have been vitiated before, are at length inflamed, concocted, and thickened by the heat of the fever, and so contribute to render it more lasting; and likewise, as it makes way for an opiate, which operates with more speed and safety, than if the morbid humours, which might otherwise lessen its virtue, had not been expelled by purging.

37. Whereas, on the contrary, the method which consists in carrying off the febrile matter through the pores of the skin, is not only less certain, but more troublesome and tedious, as prolonging the disease several weeks, and bringing the patient's life into imminent danger; and, supposing he at length happens to escape death, reduces him to the mortification of taking a multitude of medicines, during the long continuance of the fever, to remove those symptoms which proceed from ill management, by attempting to cure it by an extremely hot regimen and heating medicines, which of its own nature requires the coolest of both kinds. And thus, while men of unsound judgment tie themselves up to follow rules of art, as they are falsely termed, despising the contradictory testimony of their senses, and perplexing the cure by their hurry and apprehension, they change a disease, which of itself goes off in a little time, (and easily yields) into a lasting and difficult disorder.

38. For these reasons, therefore, I hope I may assert, upon good grounds, that the method of cure above delivered, which consists in bleeding and purging, is the most effectual one to conquer most kinds of fevers. Sweating is indeed, properly speaking, nature's method of expelling the febrile matter, and best adapted to the end, whenever nature unassisted first digests the morbid matter, and after it is sufficiently concocted, carries it off gently through the pores; which successful manner of curing fevers by nature, having been often observed by practical physi-

cians, the theorist thence took occasion to make this rule, that all fevers may, and ought to be cured only by sweating.*

39. But admitting this conclusion, it is manifest that art, how nearly soever it may seem to imitate nature, cannot always certainly cure fevers by sweat. For 1. art is unacquainted with the manner of duly preparing the morbid matter for expulsion; and though this were no secret, yet there are no certain signs indicating its due preparation; whence the fittest time of raising a sweat must needs likewise be unknown. And sure none but an obstinate person will deny it to be highly dangerous to excite sweat inconsiderately before the due concoction of the febrile matter, as the translating the unconcocted matter to the brain must increase the distemper. Besides, as I have elsewhere observed, the judicious aphorism of Hippocrates, viz. "that concocted, and not crude matters are to be evacuated," seems to relate more to sweating procured by art, than to purging. For a man must be but little conversant in the practice of physic, not to know what numbers of persons are injured every day by old women and unskilful pretenders to medicine by this preposterous use of sudorifics; it being customary with them, when a person complains of chillness, and a pain of the head and bones, which are the general fore-runners of a fever, to put him to bed immediately, and use their utmost endeavours to promote sweat. But this ill-timed attempt is so far from preventing the fever, which might perhaps have gone off spontaneously, or upon taking away a little blood, that, contrariwise, it is much increased thereby, and becomes a lasting and inveterate disease.

40. 2. It is farther to be observed, that as those sweats which appear spontaneously in the beginning of the fever are entirely symptomatic, and not at all critical, so those, likewise, which are forced out at this time by sudorifics, do generally forward the cure no more than the former, which avail nothing to this purpose. 3. Again, as the proper time of promoting sweat is not

* The editor agrees with the author that bleeding and purging are generally the most effectual remedies for fevers of great morbid action, but he does not admit sweating to be nature's method of curing them. She often employs hæmorrhages, cholera morbus, and diarrhœa for this purpose, and generally with more success than sweating—Indeed the sweats induced by nature are so premature, and so profuse, or so partial, and transient when unassisted by bleeding, or purging, that they seldom do good, and often much harm. The objections to an exclusive reliance upon this popular English remedy for the cure of fevers, are very ably detailed by our author in the two succeeding sections.

known, so neither can we tell how long we should persist in this way; for if the sweat he continued beyond the due time, that is, longer than is requisite to carry off all the morbid matter, the waste of those fluid particles which should serve to dilute and cool the blood, will be a means of prolonging and increasing the fever. Hence, therefore, the precariousness of this method appears; whereas, on the contrary, the physician hath it in his power to regulate the other method, which consists in expelling the febrile matter by bleeding and purging, as he shall judge most convenient. 4. Farthermore, this method deserves the preference for this reason, namely, because it will do no mischief, though it should fail of curing; whereas sudorifics are pernicious, unless they complete the cure: for the warmth of the body, when a person hath been kept in bed some time, contrary to his usual custom, not to mention cordials, which are always administered in this method of cure, disturbs the animal economy, and causes convulsive motions of the limbs, and other irregular symptoms, which cannot be described, because they do not come under the history of the disease, as is common in several symptoms in all diseases, but proceed originally from the tumult and disorder super-induced, which frequently oppress nature when the distemper is treated according to this method: all which are ordinarily ascribed to I know not what malignity.

41 The invention of the term, or opinion of malignity, has been far more destructive to mankind, than the invention of gunpowder.* For as these fevers are principally entitled malignant,

* Had Dr. Sydenham lived in the present day he would have combined the terms "debility" and "putrefaction" with that of malignity, in their pernicious influence in medicine, and their destructive effects upon human life. The true nature of each of them are happily pointed out in this and the succeeding sections, and the editor takes pleasure in acknowledging that it was from this source he derived his ideas of the nature of fevers of great morbid action, and of the mode of treating them which he has adopted in his practice, and taught in the University of Pennsylvania. He has called that state of fever in which the symptoms of great depression appear which our author has described, the "oppressed" or "suffocated" state of fever, and that in which petechiæ and other signs of what are called malignity appear upon the skin, the "gangrenous" state of fever. When the system descends from the force of stimuli, below re-acting after the use of depleting remedies, he has called it the "prostrate" state of fever. In this state of the system powerful stimulants only should be employed. They succeed it is true now and then in the "oppressed" state of the system, but they are not the proper remedies in these cases as was often observed in the fatal issue of many of those cases of yellow fever in which they were employed in Philadelphia in the year 1793.

which are found most inflammatory, hence physicians have recourse to certain cordials and alexipharmics, in order to expel the imaginary poison by the pores; for so it must be called, unless they had rather trifle about words, than propose in earnest what may be understood; and upon the same foundation they have adapted the warmest regimen and medicines to those diseases which chiefly require the reverse. This in reality appears manifestly enough in the cure of the small pox, which is one of the most inflammatory diseases, as well as of other fevers; physicians having, perhaps, been led into this mistake by the petechiæ, purple spots, and the like symptoms; which in most subjects proceed originally from an inflammation super-induced upon the blood, already over-heated by the fever; because they seldom come out spontaneously, except in the beginning of the plague, or that sort of confluent small pox attended with the highest inflammation. In this kind, indeed, the purple spots shew themselves in different parts of the body, intermix with the eruptions at their coming out, and are accompanied at the same time with a flux of blood from the lungs or urinary passages, and a cough, if the fever be so high as to put the blood into a very violent motion, and cause it to burst the vessels, and empty itself into the cavities of the body. And though the purple spots in this fever proceed not from such a considerable heat of the blood, as that which occasions such bleedings, yet they are produced by the same inflammation, with this difference only, that it is not so violent, and when not accompanied with such a flux of blood (the only symptom in the small pox which hitherto baffles the art of medicine) easily yields to a cooling regimen.

42. But if it be inferred, that there is some malignity in the case, not only from the purple spots, but also from finding the symptoms of the fever milder sometimes than should seem agreeable to its nature, whilst notwithstanding, the patient is more debilitated than could be expected for the time; I answer that all the symptoms only proceed from nature's being in a manner oppressed and overcome by the first attack of the disease, so as not to be able to raise regular symptoms, adequate to the violence of the fever; all the appearances being quite irregular. For the animal economy being disordered, and in a manner destroyed, the fever is thereby depressed, which in the true natural order generally rises high. I remember to have met with a remarkable instance of this several years ago in a young man I then attended; for though he seemed in a manner expiring, yet the outward parts felt so cool, that I could not persuade the attendants he had a fever, which could not disengage and shew itself clearly, because the vessels were so full as to obstruct the motion of the blood. However, I said, that they would soon find the fever rise high enough

upon bleeding him. Accordingly, after taking away a large quantity of blood, as violent a fever appeared as I ever met with, and did not go off till bleeding had been used three or four times.* And this may suffice, with respect to these particulars.

43. But if the reasons alledged be not sufficient to prove that I am certainly right in what I have asserted, yet if experience teaches me that this fever does not readily yield to sweating, it is enough for my purpose, since it is not reasoning, but experience, that shews what sorts of fevers will yield to, and ought to be cured by sweat, and what kind by other evacuations. And, indeed, no judicious person, who is sufficiently acquainted with the nature of men and things, would hastily embrace the sentiments of another person, though of the greatest authority in matters of mere speculation, not demonstrable by any certain experiment. Such a one should reflect, that there is so much difference and subtilty in arguments, that though a theory may be proposed by a person which shall appear to be founded upon such solid reasonings as to command the assent of all that are present, yet, soon after, another person of greater abilities, perhaps, coming to consider the hypothesis that seemed so well established, shews its inconsistencies, and clearly proves by more cogent arguments, that it is no more than an imaginary notion, not the least trace of it being discoverable in nature, and substitutes a new and seemingly more probable and artful hypothesis in the room of it; which, notwithstanding, meets the same fate as the former, as soon as some third person, as much superior in parts to the second, as he was to the first, stands up to oppose it. And there will be no end of the dispute, till we come at length to him, who is arrived at the height of human knowledge: but the great difficulty of finding this person, and distinguishing him from the rest of mankind, will soon appear to any one, who is not so extravagantly vain, as to lay claim to the character himself. For, as it is no improbable supposition, that there is an almost infinite number of beings in those vast orbs placed above us in different parts of the firmament, possessed of much more penetration than weak men; so it is not certainly known, whether the brain, which is the repository of thought, may not be so formed by nature, that mankind cannot so clearly discover what is absolutely true, as what is best adapted to their nature. But we shall say no more to those physicians, who regulate their practice more by idle speculations, than experience founded on the solid testimony of the senses.

* This was a suffocated state of fever. The editor has seen many cures of similar cases, by the remedy used by our author.

44. But if it be objected here, that this fever frequently yields to a quite contrary method to that I have laid down ; I answer, that the cure of a disease by a method which is attended with success only now and then in a few instances, differs extremely from that practical method, the efficacy whereof appears both from its recovering greater numbers, and all the practical phenomena happening in the cure. Thus, for instance, abundance of persons have recovered of the small pox, notwithstanding their having been treated by a hot regimen and heating medicines; and, on the contrary, several have recovered by the opposite method. Now, by what means is this dispute to be decided; and which of the two methods is to be preferred? The surest way of judging in this case, I take to be this: if in pursuing the former method, I find that the more I heat the patient, the more I increase the fever, restlessness, delirium, and other symptoms; and, on the contrary, if it should appear, upon being moderately cooled, that he is so much the calmer and freer from the fever, and other symptoms; and farther, that by keeping the fleshy parts in such a degree of warmth as best suits with the rising and suppuration of the pustules, they grow larger and fuller than by keeping him overhot: having, I say, thus stated both cases, I conceive it cannot be doubted which method merits the preference.

45. So likewise, if I find, in the fever under consideration, that the more the patient is heated, the more he is disposed not only to a phrensy, purple spots, petechiæ, and the like symptoms; but farther, that the fever by this procedure is attended with all sorts of irregular and violent symptoms: and, on the other hand, if it appears that another patient, by treating him according to the method here proposed, is quite free from these symptoms, reason shews that the latter method of practice is much the best; though both the subjects recover by such different treatment. But if more recover by this method than the other, the dispute is so much the more easily determined; which, however, I will not go about to decide, for fear of seeming too partial to my own opinions.

46. And these particulars shall suffice concerning this kind of fever; how long it will last I know not, and cannot tell but it may be some subtle and spirituous beginning of that depuratory fever, now abolished, which the dreadful plague succeeded. In reality, there are some phenomena which rather incline me to embrace this opinion, insomuch as not only intermittent fevers, especially quartans, still continue in a few places, but likewise some of those continued fevers do sometimes turn to intermittents, especially during this autumn; not to mention now the increase of this fever towards night, which a little resembles the fits of intermittents: and what farther confirms me in this sentiment is, that

persons in this disorder are much subject to vomiting. I do not, however, pretend to absolute certainty in this point, for want of knowing how the depuratory fevers began, as I intimated before in the following terms: "How long this continued fever had prevailed, I cannot say, my time having been hitherto sufficiently taken up in observing the general symptoms of fevers, and not having yet found that fevers might be distinguished with regard to the various constitutions of different years, or the different seasons of the same year."

DISSERTATION

CONCERNING THE PUTRID, OR SECOND FEVER, HAPPENING IN
THE SMALL POX.

1. AS my declining age, and the ill state of health I have long laboured under, may possibly deprive me of the opportunity of publishing some recent observations I have made (though too late in my life) concerning the second fever happening in the small pox, I trust the reader will not be displeased to find them added here, though they have not the least relation to the distemper we have just been treating of.

2. I have long since shewn, in another place, wherein the great difference consists between the distinct and confluent small pox; namely, that the former is so void of danger, as to stand in need of very little assistance from medicine, the patient recovering spontaneously by the help of nature, unless he happens to promote sweat in the beginning by lying always in bed. For, as I formerly observed, when a person sweats freely in the distinct small pox, he thinks himself in a very promising way, as hoping the malignity of the disease will be expelled by this means through the pores of the skin; and, therefore, diligently promotes the sweat by cordials and a hot regimen, as should seem proper; and he pursues this method the more willingly, because it appeared to relieve him in the beginning, and agrees better likewise with the ill-grounded opinion of the attendants. But those particles being at length carried off by sweats, which should have contributed to raise the pustules, and swell the face, the consequence is, that the face, which on the eighth day ought to swell, and be inflamed in the intermediate spaces, on the contrary appears sunk, and those spaces white, whilst the pustules yet look red, and continue elevated even after the death of the patient. The sweat, which flowed freely to this day, ceases spontaneously of a sudden, and cannot be raised again by the warmest cordials; and in the mean time the patient is seized with a delirium, great restlessness, sickness, and a frequency of making urine in small quantities, and dies in a few hours unexpectedly; whereas he might have recovered, and not been at all endangered, if he had trusted the cure to nature, without confining himself strictly to any regimen.

3. But in the confluent small pox the case is very different, for though this kind does not terrify the attendants so much, and does not in the least endanger life, in the first days of the illness, unless there happens a flux of blood from the lungs, or urinary passages, at this juncture, yet afterwards, in the declension of the disease, on those days which I formerly observed were most dangerous, the patient is brought to such an extremity on a sudden, that whether he will live or die appears equally uncertain and precarious.

4. In the number of those days, I reckon the eleventh day inclusive from the beginning of the illness, that is, in the mildest, but most common sort of the confluent small pox; the fourteenth in the middle kind, and the seventeenth in the worst species, which we frequently meet with; though it sometimes, but seldom happens that the patient survives to the twenty-first day; the eruptions continuing so dry and hard to this time, and so deeply fixed in the flesh, especially in the face, as by no art to be brought to fall off. But the patient seems generally to be first endangered on the eleventh day, a high fever, attended with restlessness, and other symptoms, coming on then together, which foreshew immediate death, and ordinarily prove destructive, unless medicine interposes to prevent it. But if the patient out-lives this day, the fourteenth and seventeenth are still to be apprehended; for a very vehement fit of restlessness comes on every day towards evening, between the eleventh and seventeenth, and there is great difficulty in saving the patient.

5. I have likewise shewn, that the greater or less impending danger, in this sort of small pox, proceeds from hence; namely, that the distinct small pox is accompanied with fewer phlegmons, or tumours with inflammation, of which kind all pustules are when they first appear, whence of course only a small quantity of pus is to be taken back into the blood by the circulation, when they begin to suppurate; so that we need not fear the fever's rising too high from this quarter, nature being able to preserve the blood from the taint communicated thereto by so small a quantity of matter. Whereas, in the confluent kind, the greatest part of the body being covered with these phlegmons, which afterwards degenerate into abscesses, so much pus is transmitted from the veins into the blood on the above-mentioned days, in which nature generally brings them to their height, or fit ripeness, and such a plenty of putrid effluvia insinuate themselves into the mass from the surface of the whole body, now in a manner universally suppurated, that the fever hereby occasioned oppresses nature entirely, and thus the patient dies at length, partly from the fever, and partly from the infection which hath tainted the blood.

6. Since then the safety of the patient depends so much on

the paucity of the eruptions, and the danger, on the contrary, on the abundance of them, both reason and common sense intimate that a skilful physician ought not to force out the variolous matter in a violent manner, at the beginning of the disease, by a hot regimen and cordials, whence too great an assimilation of the morbid matter lodged in the blood is occasioned, and the whole substance of the body in a manner changed into supplies for the disease; but should rather use all his endeavours to check so excessive and subtle an inflammation. To answer this purpose, bleeding in the arm is to be first performed, if there be the least suspicion that the small pox, on the point of coming out, will prove of the confluent kind, 1. either from the patient's being in the prime of life, or 2. the blood having been inflamed by strong liquors, or 3. violent pain attacking some part of the body, or 4. lastly, if the distemper be joined with vehement vomiting; and after bleeding a vomit will conduce to the same end. But as nothing heats the patient so much, and consequently promotes the too copious assimilation of the variolous matter to that degree, as lying constantly in bed, I always enjoin him to sit up a-days till the sixth day from the beginning of the disease, and the fourth from the eruption, when all the pustules appear. After this time I keep him in bed till the disease goes off, but neither allow him more or warmer cloaths, or suffer him to keep a larger fire in his room, than he was accustomed to whilst in health. In the mean time I permit him to drink freely of small beer, and such other cooling liquors as he likes best.

7. But notwithstanding the most cooling regimen be used, the patient will often be seized with heats, a delirium and restlessness, for which reason I order an opiate to be taken every night earlier than ordinary, this distemper being generally attended with a kind of access, or increase of heat and restlessness towards evening. This is the best method of preventing the appearance of too many pustules (whence the most danger ensues, as I have shewn above) and likewise of promoting their filling after the eruption, as well as their due suppuration afterwards.

8. It is nevertheless to be regretted, inasmuch as the youthful part of mankind chiefly perish by this disease, that the patient, who before was in no great danger, is often seized on the eleventh day, or some one of those days which I have reckoned the most dangerous in the different sorts of the confluent small pox, with a high fever, very difficult respiration, and great restlessness, which, these and all other helps hitherto discovered by medicine not availing, suddenly put an end to his life, to the astonishment of his friends, who, till this fatal period, had hopes of his recovery. In this case the physician, having done all he could to prevent it, will do his best to conquer this sudden violent turn of the disease; in order to which let it be well considered, that this

adventitious fever, which happens on the eleventh day in the confluent small pox, is a quite different distemper from the small pox and that fever which either precedes the eruption, or arises sometimes from the inflammation of the pustules, or phlegmons, at the beginning. For, properly speaking, it is only a putrid fever proceeding from the transmission of putrid particles of the pustules, now in a state of suppuration, into the blood, which, being prejudicial to nature, at the same time infect the patient, and occasion a very bad fever.

9. In this case, therefore, any prudent person will esteem those the only proper remedies, which will most effectually check this second fever, which I call putrid: and nothing does this better than plentifully bleeding, which clears the blood of the morbid particles that nourish the disease.* Nor is this practice, in my opinion, in the least contra-indicated by the distemper in the present state of the eruptions, since, if the patient should die at this period, and be interred, yet the eruptions being hard and dry, could not strike in, nor grow at all less. And, in effect, we have nothing to do now with the small pox, but with the putrid fever, which is a very different disease.

10. For these reasons I have recourse to the following method with success, which I discovered since I published my last observations on the small pox; neither do I know, or can think of any other that will so certainly relieve. When therefore, the patient is threatened with immediate death from the uncommon violence of the symptoms without speedy help, whether it be on the eleventh day, or afterwards, I order ten or twelve ounces of blood to be immediately taken away from that arm which hath the fewest eruptions, and in which, therefore, the vein may be the most commodiously opened; for though opiates, and sitting up a-days, may be sufficient in the beginning of the disease, without bleeding, to conquer the fit which comes mostly towards evening, yet on these days of the secondary fever plentiful bleeding alone can be safely depended on, this being the sole means of quieting the present tumult. An opiate is, therefore, to be given in a large dose, in the evening, as before, to which we have recourse now, as to an effectual refuge, and it is to be repeated, from this time, morning and night, and sometimes oftener, as there is occasion. For it must be carefully noted, that the symptoms in some persons are so very violent, that an opiate given even in a very large quantity cannot overcome, nor even check them in

* The successful issue of bleeding recommended in this section, for the cure of what he calls the second or putrid fever of the small pox, is a confirmation of the truth of the remarks contained in the preceding note.

less than twelve hours ; in which case it is indispensibly necessary to repeat the opiate in the same dose every six or eight hours.

11. But as it frequently happens in the declension of the distemper, partly from the nature thereof, and partly from the great virtue of the opiate, which the circumstances manifestly required, that the patient becomes so very costive as to be in danger of suffocation, and that the fever likewise rises so high as to leave little hopes of recovery, we must suit the remedy to the present exigency. Accordingly, in this case, less danger will ensue from taking a gentle purge, than from the fever, much increased by the retention of the fæces. I have successfully ordered here an ounce and half of lenitive electuary to be dissolved in four ounces of small distilled water ; for instance, the distilled water of succory, or milk water, and taken immediately ; and though this draught may not operate speedily, on account of the usual costiveness in this disease, and also of the long continued use of opiates, yet being administered in the morning, it ordinarily gives a few motions before night ; but if it should not, the opiate must be exhibited in the evening, and indeed earlier, notwithstanding the purge, if great restlessness, or sickness threatens danger, lest the patient for want of this assistance should perish, whilst we are waiting for the operation of the medicine. Nor will so mild a purge do the least mischief, though it should not work at all : so that if it does not answer the expected end the first day, repeat it the next, and the latter dose seconding the former, it will seldom fail the physician. But if it should seem to have procured a sufficient discharge for the present, and the patient grow better thereupon, the second draught may be deferred to another time.

12. In this manner bleeding and purging may be repeated by intervals, as the fever and restlessness seem to require, till the patient is out of danger. But with respect to purging, that the mentioning it may not prove much more detrimental than beneficial, let it be carefully remembered, that a purge is not to be exhibited till the declension of the disease, namely, on the thirteenth, or some subsequent day, and not then, unless some blood hath been taken away upon the first appearance of the second fever.

13. But in order to complete the method of practice in this disease as far as I am able, I will willingly be at the trouble of communicating a few particulars concerning spitting of blood, and bloody urine, which happen in the small pox. Both these hæmorrhages, as I observed before, come on in the beginning of the disease, either before the pustules appear, or whilst they only shew themselves in some places, and in the rest lie thick under the skin, and are of that sort, which would prove most confluent, if one of those symptoms did not cause the distemper

to terminate fatally ; whilst purple spots appear in the mean time in some parts of the body, and threaten death. But though the purple spots may be removed by duly cooling the blood, yet both bloody urine, and a violent flux of blood from the lungs, ordinarily foreshew certain death : nevertheless, this dreadful difficulty may likewise be overcome, and life preserved. For as both these symptoms proceed from the vehement inflammation, and of course the exceeding thinness or dissolved state of the blood, such medicines as cool and likewise thicken the blood, by their binding and incrassating quality, admirably check these bleedings. For this reason, after bleeding once plentifully, give an opiate.*

Take of the distilled water of red poppies, two ounces ; liquid laudanum, fourteen drops ; distilled vinegar, three drams ; diacodium, half an ounce ; mix them together for a draught ; then let the following, or the like remedies, be used till the bleeding stops :

Take of the troches of Lemnian and Armenian bole, each a dram ; sealed earth, blood stone, dragon's blood, and prepared red coral, each half a dram ; mastich, gum arabic, each a scruple ; make them into a fine powder, of which let half a dram be taken every three hours, in a spoonful of syrup of comfrey, drinking after it four or five spoonfuls of the following julap :

Take of the distilled waters of plantain, and oak buds, each three ounces ; cinnamon water without spirit, two ounces ; syrup of dried roses, an ounce ; enough to give it a moderate tartness ; mix the whole for a julap.

* Our author has justly ascribed the dissolved state of the blood to the violent inflammatory action of the blood vessels. It is sometimes dissolved from an opposite cause, and that is from too feeble action of the blood vessels upon it, as in the prostrate and the low states of fever. The blood is restored to its consistency, or in other words, resuscitated by taking off the pressure upon the blood-vessels by bleeding in the former case, and by increasing their action in the latter cases, by means of stimulating remedies.

An apology may seem necessary for the notes upon the small pox, since its extirpation from the list of diseases has been anticipated from the introduction and success of vaccination in preventing it. The design of the editor in inserting those notes was, to illustrate and enforce certain principles and modes of practice which occur in his treatises upon the small-pox, and that are of extensive application to other diseases.

In the mean time the opiate above prescribed must be given every evening: emulsions also made of the four greater cold seeds, and white poppy seeds, are very beneficial. But after the bleeding is stopped, the distemper is to be treated in all other respects, throughout the course of the cure, according to the method above delivered in our discourse on the small pox.

14. Before I conclude, let me add, that when I order liquid laudanum, I mean my own laudanum, the preparation of which I have already communicated. And the syrup of poppies, or diacodium, I would have made in the following manner:

Take of the heads of the white poppy well dried, fourteen ounces; let them infuse for twenty-four hours in a gallon of spring water; then boil them well, and press out the remainder strongly; to which add twenty-four ounces of sugar, and boil them together into a syrup.

I esteem these two preparations the best of their kind; especially the diacodium, an ounce of which will do more service than two of that which is made with green poppy heads (without pressing the liquor out so strongly) and a large quantity sometimes of the black heads of the wild poppy, which have little virtue. Accordingly, whenever I am not satisfied about the strength of any of these opiates, I usually order a grain and a half, or two grains of solid London laudanum, dissolved in some proper distilled water, in the room of them, by which means I avoid making any mistake, and hurting my patient.*

* It is not peculiar to the different preparations of opium to produce different effects upon the body. Many articles of the *Materia Medica* are as much changed by their pharmaceutical treatment, in their relation to the stomach and to diseases, as articles of diet. Dr. Quarin of Vienna tells us, he obtained diuretic effects from the extract of squills, which he had in vain looked for from the usual forms in which that medicine is exhibited.

DISSERTATION

CONCERNING BLOODY URINE FROM A STONE IN THE KIDNEYS.

1. **THOUGH** some may think me a little indiscreet in publishing an observation which I have experienced in myself alone, yet it is hoped no equitable person will be displeased with me, who have suffered so long and so much from bloody urine, from a stone in the kidneys, for being moved to compassionate those who labour under the same disease, and to communicate those remedies which have given me relief, though they may perhaps seem common, and not worthy of notice.

2. In the year 1660, I had the longest and severest fit of the gout I ever had in my life, so that I was constrained for two months, in the summer season, to lie always in or upon a soft bed, and towards the close of the fit I began to feel a dull heavy pain, especially in the left kidney, and sometimes, though very seldom, in the right. After the gout went off, the pain in the kidneys remained, and attacked me at intervals, which, though it was not very sharp, made me apprehend the stone; for I had not yet had a single fit of the stone, which is attended with severe pain along the ureters towards the bladder, and violent vomiting. But though these signs of the stone in the kidneys appeared not hitherto, yet I had reason to believe I had a large stone in one of them, which being too big to pass into the ureters, occasioned the above-mentioned symptoms. And several years afterwards I found I was not mistaken; for having walked considerably, and for a long time in the winter season, in 1676, soon after the breaking of a severe frost, I made bloody urine directly, and consequently did so whenever I walked much, or was carried in a coach over the stones, though the horses went slowly; but this symptom did not seize me when I travelled in a coach on unpaved roads, how long a journey soever I made.

3. The urine I voided on these occasions, though it looked very bad at the time of making, so as to resemble pure blood, yet soon after it became clear at the top, like natural urine, the blood falling to the bottom by itself in clots. To relieve this

disorder, I had a large quantity of blood taken from my arm, and after taking some purges, had recourse to several sorts of cooling incrassating remedies, along with a proper regimen, and carefully forbore all acid, pungent, and attenuating liquors. But receiving no benefit from these, and many other remedies, which it would take up too much time to enumerate, and fearing to drive the stone forwards by steel waters, as suspecting it was too large to be expelled thereby, I at length quite despairing of relieving myself in this method, especially having found that some of my acquaintance had hastened death by fruitlessly endeavouring to cure this complaint by such medicines; for which reason I resolved to desist from all further trials, unless by way of prevention, by avoiding all motion of the body as much as I could.

4. But happening afterwards to recollect the great commendations which some persons have bestowed on the seed of the ash-tree, for its stone dissolving, or stone breaking virtue, I imagined that if the seed had so much virtue, the manna thereof might probably have more. For the manna which comes to us, according to Mr. Ray, and other earlier writers, is neither an aerial honey, nor any kind of heavenly dew, but rather a liquor oozing from the leaves, branches, or trunk of the Calabrian ash-tree, of the truth of which Mr. Ray was farther satisfied whilst he was in his travels in Italy, by a physician, who frequently gathered manna from the branches and leaves of these trees, first closely covered with linen cloths. Accordingly, to make the trial, I dissolved two ounces and a half of manna in a quart of whey, and drank it, and took a little lemon-juice between whiles, as well to make it operate more speedily, it being ordinarily a slow purgative, as to render it more agreeable to the stomach. It is hard to express the ease I perceived in the region of the kidneys from this medicine; for though the pain was not continual before, yet I felt a troublesome weight. Encouraged by this success, I took this purgative every week on a set day, for some months, and found a manifest amendment after every purge, till at length I could bear the shaking of a coach when the horses went apace, and indeed continued free from this symptom till last spring, at the beginning of which it returned, occasioned by my having had the gout severely all the preceding winter, and my inability to motion, which made me indulge rest, and use less exercise than usual. And now I doubted whether I should have recourse to purging again, as finding that the mildest purge certainly occasioned a fit of the gout, because the whole substance of my body, in these latter years, had, in a manner, degenerated into nourishment for this distemper. But at length it came into my mind, that I might safely resume my former method of taking manna once a week, provided I took an opiate in the evening, after the operation, to quiet the tumult raised by the purga-

tive. Accordingly, in the morning I drank two ounces and a half of manna dissolved in a quart of whey, and at night took sixteen drops of liquid laudanum in small beer; and repeated the manna and laudanum in this manner twice a week, for three weeks running. But afterwards I took the manna only once a week, because it had discharged such plenty of foul humours, as to leave little fear of the gout. And my reason telling me, that if manna was possessed of any stone-dissolving, or stone-breaking virtue, its efficacy on which I depend, must needs be lessened, in some measure, by so powerful an astringent as laudanum is, I thought it best to omit taking the opiate, as I only purged once a week.

5. I have continued this method for some months, always purging on the same day of the week, and would not, upon any account, be persuaded to quit it. But though the pain in my back abated, as formerly, upon taking the first purge, yet soon after repeated purging brought on some symptoms of the gout, which sometimes affected the limbs, and sometimes the bowels: but laudanum effectually checked these motions of the distemper. This method, however, having hitherto been successful, I judged it proper to continue it, both to prevent the return of the bloody urine, and to carry off a part of the matter that forms the stone. And, in the end, it answered my expectation, having never had this hæmorrhage since my first publication of this treatise, and therefore I left off the manna entirely.

6. With respect to purging, therefore, in the case of bloody urine, provided only manna be used according to the method above delivered, I must retract an assertion I formerly published in my treatise on the gout; namely, "That it is absolutely improper to purge gouty persons either at the beginning, declension, or in the intervals of the fits.*"

* If Dr. Sydenham retracted an opinion, hastily formed, or corrected by more extensive experience, who will be ashamed of imitating his candour?

I shall take leave of my reader in this place, by informing him, that great as my labour has been in preparing this edition of Dr. Sydenham for the press, I have experienced in undergoing it, more pleasure than fatigue. I quit with reluctance my intercourse with the illustrious interpreter of "the confused and irregular operations of disordered and debilitated nature," and shall only add, my sincere wish, that some kind hand may perform the same office which I have endeavoured to perform for Dr. Sydenham, by pointing out such of the errors of my opinions and practice in medicine, as time and future improvements in our service shall discover to be useless, or hazardous to the health and lives of my fellow creatures.

Though Sinon's plunged by fate in misery,
'Tis not in fortune's power to make me lye.

For I did not then recollect that the fit which I feared might be occasioned by the purgative, might be prevented by giving an opiate at night. Nevertheless, if the gout only be attended to, all manner of evacuations are very pernicious therein, and therefore not to be used, unless the above-mentioned symptoms require them.

7. To these observations I will add a few particulars, relating to the regimen and diet, which seem proper in both these distempers; for I would not omit mentioning any thing that may be serviceable to such as labour under the diseases that I do. In the morning, as soon as I am up, I drink a dish or two of tea, then I go out in my coach till noon, and at my return home I dine moderately upon any kind of meat I like, that is easy of digestion: for moderation is principally necessary. I drink a little more than a quarter of a pint of canary immediately after dinner every day, to promote digestion, and drive the gout from my bowels. In the afternoon I go out in my coach, and, when business permits, take a turn into the country for two or three miles for good air. A draught of small beer serves me instead of a supper; and I drink another draught after I am in bed, and about to compose myself to sleep, in order to dilute and cool the hot and acrid humours lodged in the kidneys, which breed the stone. I always prefer small beer brewed with hops, to that which has none, because, though unhopped small beer is smoother and softer, and so better suited to bring away the stone from the kidneys, yet that which is brewed with hops, on the account of the slight stypticity it receives from the hop, is less apt to breed gravel and calculous matter than that which has none, as being more viscid and slimy. On my purging day I dine upon a chicken, and, notwithstanding, drink my canary as usual. I go to bed early, especially in the winter season; this being one of the best helps for promoting digestion, and preserving the proper order of nature: whereas, on the contrary, sitting up late weakens and vitiates all the digestive faculties in aged persons afflicted with any chronic disease, and injures their vital principle to a degree not to be easily remedied. And to prevent bloody urine from the stone, whenever I am obliged to go very far in my coach upon the stones (for the longest journey in unpaved roads does me not the least hurt) I always drink a large draught of small beer before I set out, and another in the way, if I am abroad a considerable time; by which means I secure myself pretty well from bloody urine.

8. But with respect to the gout, I will add one observation,

which is this : of late years the gouty matter sometimes strikes in, occasioned by some error in the non-naturals, the signs of which are great sickness, with vomiting, and a slight pain of the belly, whilst the limbs at the same time are suddenly freed from pain, and better disposed to motion than ordinary. In this case I drink a gallon of posset drink, or small beer, and after having discharged it upwards, take a small draught of canary, with eighteen drops of liquid laudanum in it, and compose myself to sleep : and by this method I have several times saved myself from imminent death.

9. Though it may, perhaps, seem absurd, especially in a person whose life or death is of so little moment, to mention himself so frequently, yet my intention in communicating these particulars is to serve others, whose lives and health are probably of greater value.

10. Lastly, we are to take notice of the great danger which some persons who have the gout and stone run by unadvisedly taking manna dissolved in the purging mineral waters, for though being taken this way, it works quicker, and sits easier upon the stomach, yet these inconsiderable advantages are no equivalent for the mischief otherwise occasioned by the waters. For if the stone in the kidneys be too large to be forced through the ureters into the bladder, these waters generally cause a fit, which continues not without endangering the life of the patient, till the stone gets back again into the pelvis. Steel waters, likewise, are unsafe, unless it be certainly known beforehand, that the stone is small enough either to slip, or force its way through the ureters, which, to the best of my judgment, can only be learnt with certainty from hence ; viz. if the patient has already had a fit of the stone, (which consists of a very sharp pain in one of the kidneys, extending through the whole duct of the ureters, and accompanied with violent vomiting) he may be assured that the pelvis, instead of having a large stone in it, rather contains a number of small stones, one of which will fall occasionally into the ureters, and cause a fit, which generally lasts till it is forced into the bladder. In this case, I say there is no better remedy either to prevent the increase of small stones, or to expel them from the kidneys than drinking steel waters plentifully every summer.

11. But as persons may often be seized with a fit of the stone, when these waters are either not procurable, or at an improper season for drinking them, they are to be treated according to the following short and plain method. The patient being sanguine and not aged, take ten ounces of blood away from the arm of the pained side, then let a gallon of posset drink, in which two ounces of the roots of marshmallows have been boiled, be drank with the utmost expedition, and the following glyster injected :

Take of the roots of marshmallows, and the white lily, each an ounce ; the leaves of mallows, pellitory of the wall, bear's breech, and camomile flowers, each an handful ; the seeds of flax and fenugreek, each half an ounce ; boil them together in a sufficient quantity of water to a pint and half ; in the strained liquor dissolve brown sugar and syrup of marshmallows, each two ounces : mix the whole for a glyster.

When the patient has thrown up the posset drink, and the glyster done working, give a sufficiently large dose of liquid laudanum ; for instance, twenty-five drops, or fifteen or sixteen grains of Matthew's pill. But bleeding is not to be used in aged persons, worn out by some inveterate chronic disease, and ancient women subject to the vapours, especially if they void black gravelly urine at the beginning of the fit : nevertheless, in other respects, this method must be closely followed.

12. But to return to the stone, supposing it a large one, which is our present subject : if the patient hath never had a fit, on account of the stone's being too big to pass the pelvis, steel waters will not only do no service, but cannot be used without immediate danger, for the reasons above-mentioned. Nor do mineral waters succeed better in gouty persons, if they be advanced in years, as such mostly are, and withal of a weak and phlegmatic constitution ; the strength of nature being sometimes impaired to that degree in such subjects, as to give great reason to apprehend the total loss thereof from such a quantity of water. But whether the ill consequences happening to persons of this constitution proceed from this, or some other cause, I am thoroughly persuaded that abundance of persons, who have been extremely debilitated, and in a manner worn out by this distemper, have been destroyed by these waters.

13. And this is in a manner all I have discovered concerning the cure of diseases to the present day, September the 29th, 1686.

PROCESSUS INTEGRI:

OR,

COMPLETE METHODS

OF

CURING MOST DISEASES.

To which are added,

AN ACCURATE DESCRIPTION OF THEIR RESPECTIVE SYMPTOMS,
SEVERAL JUDICIOUS OBSERVATIONS, AND A SHORT
TREATISE OF A CONSUMPTION.

ADVERTISEMENT.

IT may not be improper here to caution our readers, not to depend wholly on what is said and directed to be done in most of the diseases described in the subsequent short treatise; but to consult those places in the foregoing works of our author, where they are treated of at large, and practical notes of our own, and others, occasionally added, to supply deficiencies, correct mistakes, or farther to explain, illustrate, and confirm his sentiments and observations.

THE ENGLISH

EDITOR'S PREFACE.

THE reader is here presented with a specimen of practice, drawn up with great thought and care, and written with his own hand, for the use of his son, a physician, and given to me by the excellent SYDENHAM: a man who hath had few competitors in any former age, and will be equalled by few in any succeeding one; who was no less eminent for his wonderful sagacity and penetration, than his probity and remarkable benevolence to mankind, so that he died greatly regretted by all that knew him; whose rules, though they are deeply imprinted in my mind, yet for fear they should by some means or other slip my treacherous memory, both to my own prejudice, and that of the diseased, I sent the manuscript to the press, and caused about twenty copies to be printed to oblige my friends. How this piece came to be published, so usefully enlarged, among the *Miscellanea Curiosa*, printed last year at Nurenburg, I know not; but it is now put into such a dress as to render it every way useful; not stuffed with fanciful speculations, and absurd notions, nor adorned with a favourite hypothesis, supported by many specious reasonings, but describing diseases candidly and accurately, and yet more accurately exhibiting the methods of cure; the sole scope of the work being to shew what nature is able to perform and bear. And to say the truth, if a person knows the structure of the parts, diseases will discover themselves by their symptoms, which may be learnt from diligent observation, and he will thence be taught to apply the true and genuine method of cure, by diet and medicine, and become a successful practitioner.

It is of little significance, whether an alkali or an acid offends, or the disease be seated in the animal spirits, or the blood, or in some hidden bowel, in order to discourse pretty learnedly and fully of the periodic return of intermittents; whilst the fever mean time plainly discovers itself, even to the attendants on the sick, by the restlessness, thirst, heat, quick pulse, retchings, and other symptoms. Hence I have often wondered, why physicians of great judgment and practice do so solicitously and scrupulously endeavour in their writings to investigate the immediate and proximate causes of disorders, and bring them out of that obscurity in which nature has involved them, though they fail in

the attempt, and cannot but know at the same time how totally ignorant they are of the causes of some obvious appearances ; as, for instance, whence proceeds the greenness of grass, or the whiteness of snow. It were better to personate the physician than the philosopher, (for who would have Cartesius for his physician?) duly and clearly to enumerate the most minute particulars, and candidly and faithfully to propose the most effectual remedies for the cure of every particular disease. By this means the art of medicine, being no longer confined to the narrow limits to which it is now restrained, will be generally known, happily promote the health of mankind, and cause its professors to be had in the highest esteem.

Our judicious author, not long before his death, intended to have given us a treatise of a consumption. He spared no pains in searching after nature's method of curing diseases, that he might assist her, and alleviate the miseries of mankind. Hence, being taught by undeniable experience, and a series of most faithful observations, he improved practice, and reduced the rules thereof to greater certainty. But, to the misfortune of the consumptive, whilst he pursued these studies without intermission, the debilitated spirits forsook their ordinary posts, and the gout, which he had been afflicted with several years, and which had weakened his limbs, struck in upon the bowels, and occasioned a violent vomiting and looseness, which endangered his life. But the prince of physicians yielded not to a single disease, for this was succeeded by the stone in the kidneys, which having corroded the mouths of the vessels, he voided more bloody urine than old age could bear ; so that suffering the disorder to take its course, being neither desirous of life nor death, it carried him off. But not totally to deprive the consumptive of help, we have published such fragments, as every where discover their author, and may be serviceable at least in the first stage of a consumption (for it is not right to conceal any thing that may relieve our fellow creatures) that from this sketch it may appear, how accurate and complete a treatise of consumptions we might have expected from him, had Providence permitted him to live to finish it.

That our very deserving author was eminently skilled in curing fevers, the small pox and measles, and all other acute and chronic diseases, the following sheets will shew. The properest regimen and diet are directed, only a few necessary remedies are prescribed, such as are neither invented to enrich the apothecary, nor compounded out of vain ostentation. He allowed his thirsty patients to quench their thirst, as he did his own, by drinking small beer freely at pleasure, which wonderfully refreshed and cooled them ; and did not cruelly stop his ears to their entreaties, and substitute nauseous apozems and julaps instead of it. He was very careful to prevent their being more heated, who were.

already too hot, either by making a large fire in the room, heaping to many cloaths on them, or giving them remedies to carry off the crude and yet unconcocted matter by the pores, which being by this means put into motion, flies to the brain, and occasions a phrensy, or coma, or from the extravasation of the blood, covers the breast with purple spots, or what are termed miliary eruptions. Can the history of the small pox be written in a more accurate and masterly manner than he has done it? He specifies the day of eruption in both sorts, and exactly describes the nature of the pustules: expressly tells us when the salivation begins, and how long it lasts; in what manner the swelling of the face and hands appears, and particularizes what is to be expected every day. He was the first who advised the use of opiates in this distemper, (with what advantage let the physicians judge) and who justly condemned the practice of giving cordials before the eruption, which often occasioned a confluent kind of small pox. But these particulars will be better learnt from his own writings; wherefore I take my leave of the reader, intreating him to overlook whatever errors he may meet with in this performance.

S. M.

THE PRESCRIPTIONS MOST FREQUENTLY USED BY THE
AUTHOR.

The common purging potion.

TAKE of tamarinds, half an ounce; sena, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of spring water to three ounces; in the strained liquor dissolve manna and solutive syrup of roses, of each one ounce: mix the whole for a potion.

The common vomit.

Take of the distilled water of holy thistle, two ounces; of antimonial wine, an ounce; syrup of cloves, half an ounce; mix them together for a vomit, to be taken at four in the afternoon, drinking a large draught of posset drink after every puke.

The pearl julap.

Take of the distilled waters of black cherries and milk, each three ounces; small cinnamon water, an ounce; prepared

pearl, a dram and half; fine sugar enough to sweeten it; and rose water half an ounce: mix all together for a julap, of which let the patient take four or five spoonfuls when he is faint.

The cordial julap.

Take of the distilled waters of black cherries and milk, each three ounces; plague water, syrup of cloves, and the juice of citron, each half an ounce; mix them for a julap, a few spoonfuls of which are to be taken often.

The dietetic decoction.

Take of the roots of sarsaparilla, six ounces; sassafras and china, each two ounces; liquorice root, an ounce; boil them together in two gallons of spring water for half an hour; then let them stand close covered upon hot ashes twelve hours, afterwards boil them again till one third of the liquor is evaporated; and upon removing it from the fire, infuse therein half an ounce of aniseeds, for two hours; then strain it off; lastly, pour off the decoction, after it is clarified by standing, into bottles, in which let it be kept well corked for use.—It is to be drank for thirty days for common drink.

The opening and antiscorbutic apozem.

Take of the roots of grass, succory, fennel, and asparagus, of each an ounce; currants and raisins stoned, each two ounces; the leaves of liverwort, hart's tongue, and maiden hair, each one handful; the leaves of brook lime, added towards the end, two handfuls; boil them together in a sufficient quantity of spring water to a quart, and towards the end of the operation add half a pint of Rhenish wine; strain off the decoction, in which, whilst hot, infuse in a close vessel for two hours an handful of the leaves of garden scurvy grass; then having strained off the liquor again, add to it the syrup of the five opening roots, and of the juice of oranges, each two ounces; small cinnamon water, an ounce; mix the whole together for an apozem, to be taken in the quantity of half a pint at a time, in the morning, and at five in the afternoon, for a fortnight.

The thickening linctus for a cough.

Take of the oil of sweet almonds, an ounce; syrup of red poppies, of purslain, and of jubebs, and the healing lohoch, each half an ounce; white sugar a sufficient quantity; and make

thereof a lohoch or linctus, according to art; to be taken frequently off a liquorice stick.

A more thickening linctus.

Take of the conserve of red roses, syrup of violets, and of white poppies, each an ounce; white poppy seeds, three drams; pass them through a hair sieve: then add oil of nutmegs by expression, six grains: mix and make a lohoch.

For a thin tickling cough.

Take of the conserve of red roses, two ounces; syrup of white poppies, and of jujubs, each an ounce; olibanum, mastich and amber, in fine powder, each a dram; oil of nutmegs, by expression, six grains: mix them together for a lohoch; a small quantity of which is to be taken often, and swallowed slowly. And let a spoonful of it be taken twice a day with eight, ten, or twelve drops of balsam of sulphur, with oil of aniseed.

Purging ale.

Take of polypody of the oak, a pound: monk's rhubarb, the leaves of sena, and stoned raisins, each half a pound; rhubarb sliced, and horse-radish root, each three ounces; the leaves of garden scurvy grass and sage, each four handfuls; four oranges sliced; infuse them together in five or six gallons of ale, whilst it works; and when it is fit to drink, let it be used for common drink, for a fortnight or three weeks, drinking a draught of it every morning especially.

The hysteric plaister.

Take of galbanum (dissolved in tincture of castor, and strained off) three drams; tacamahac, two drams; make a plaister thereof, to be spread on leather, and applied to the navel.

The purging medicine for very young children.

Take a small spoonful of the syrup of succory, with rhubarb, and give it to the child.

The bitter purgative decoction.

Take of the bitter decoction, made with a double quantity of sena, four ounces; syrup of buckthorn, an ounce; the electuary of the juice of roses, two drams: mix them together for a draught.

PROCESSUS INTEGRİ:

OR,

COMPLETE METHODS OF CURING MOST DISEASES.

OF THAT DISORDER WHICH IS CALLED THE HYSTERIC PASSION
IN WOMEN; AND THE HYPOCHONDRIAC DISEASE IN MEN.

1. WHEN the mind is disquieted by some great misfortune, the animal spirits run into irregular motions, a copious transparent urine is voided between whiles, the patients utterly despair of their recovery, and presage the worst evils to themselves. Whatever part of the body the distemper attacks, and it affects several, it soon produces the symptoms peculiar thereto: thus, when it seizes the head immediately after a difficult delivery, it occasions an apoplexy, which terminates in a palsy of one side; sometimes it causes convulsions, much like an epilepsy, and appearing in this manner, it is commonly termed the strangulation of the womb, which is accompanied with a rising of the viscera and præcordia into the throat. Sometimes the patient is seized with the clavus hystericus, which is a sharp pain in a part of the head, no larger than a thumb's breadth, and is attended with a vomiting of green matter, not unlike porraceous bile.

2. The fit likewise counterfeits a palpitation of the heart, a cough, the colic, the iliac passion, the stone and a suppression of urine, and sometimes causes excessive vomitings and a looseness. Outwardly, in the fleshy parts it sometimes occasions pains, and sometimes a swelling, which in the legs resembles a dropsy. It also attacks the teeth; and the external parts frequently feel as cold as a corpse; the patients laugh or cry without the least provocation, and sometimes spit so plentifully, that one would suspect they had been anointed with some mercurial ointment. Whatever part hysteric pains affect, they always leave it so tender upon their going off, that it cannot bear to be touched, as if the flesh had been beaten with stripes.

3. Let eight ounces of blood be taken away, and a galbanum

plaister applied to the navel ; and next morning let the patient begin to take the following medicines :

Take of the greater pil. cochiae, two drams ; castor powdered, two grains : balsam of Peru, three drops ; make the whole into twelve pills, of which let four be taken every morning, or every second morning, (according to the strength of the patient) at four or five o'clock, sleeping after them.

Take of the distilled water of rue, four ounces, compound briony water, two ounces ; castor (tied up in a piece of linen, and suspended in the vial) half a dram ; fine sugar, enough to sweeten the whole ; mix them for a julap, of which let four or five spoonfuls be taken whenever the patient is faint.

4. After finishing these pills, let the following medicine be used :

Take of the filings of iron, eight grains ; extract of wormwood enough to make it into three pills, to be taken early in the morning, and at five in the afternoon, for the space of thirty days, drinking after each dose a draught of wormwood wine.

5. If the form of a bolus be more agreeable,

Take of the conserve of Roman wormwood, and of orange peel, each an ounce ; candied angelica and nutmeg, and Venice treacle, each half an ounce ; compound powder of wake-robin, three drams ; candied ginger, two drams ; syrup of citron juice, or in defect of it, syrup of orange peel, enough to make the whole into an electuary.

Take of this electuary two drams ; the filings of iron, eight grains ; syrup of orange peel enough to make them into a bolus ; to be taken morning and night, with a draught of wormwood wine, or six spoonfuls of the following infusion after it.

Take of the roots of angelica, elecampane, master wort, each an ounce ; the leaves of common wormwood, the lesser centaury, horehound, and germander, each an handful ; the peel of two oranges, sliced thin ; put thereon as much canary as will float the breadth of two fingers above it : let the tincture be strained off as it is wanted.

6. In weakly constitutions, steel may be exhibited in powder according to the following form :

Take of iron filings finely powdered, an ounce ; compound powder of wake-robin, six drams ; the seeds of coriander, anise, and sweet fennel, each half an ounce ; cinnamon and red coral prepared, each three drams ; nutmeg, two drams ; make them into a fine powder ; to which add fine sugar, an equal weight with all the foregoing.

Half a dram of this powder is to be taken twice a day, for the space of four days, and afterwards a dram twice a day, for the space of forty days, drinking after each dose six spoonfuls of the following julap, or as much wormwood wine :

Take of milk water, twelve ounces ; compound gentian water, four ounces ; the greater compound wormwood water, two ounces ; fine sugar, enough to sweeten it : mix them for a julap.

Or,

Take of Rhënish wine, in which wormwood has been infused, half a pint ; compound gentian water, two ounces ; syrup of clove-july flowers, an ounce ; mix them for a julap.

Take of fine myrrh, galbanum, and fetid asa, each a dram ; castor, half a dram ; balsam of Peru, enough to make them into a mass, each dram whereof is to be made into twelve pills, of which three are to be taken every night, drinking after them three or four spoonfuls of compound briony water, during the continuance of this process.

7. If these pills should open the body, use the following :

Take of castor, a dram ; volatile salt of amber, half a dram ; extract of rue, enough to make them into twenty-four pills, three of which are to be taken every night, with three or four spoonfuls of the hysteric julap above directed.

Sixteen or eighteen drops of spirits of hartshorn, given often in any proper vehicle, do great service.

8. If the disease yields not to these medicines, let the following pills be used :

Take of the troches of myrrh, reduced to powder, a scruple ; balsam of sulphur, with oil of turpentine, four drops ; dissolved gum ammoniac, enough to make them into four pills, to be taken morning and night, drinking after them four or five spoonfuls of the hysteric julap, with twelve drops of spirits of hartshorn therein.

The antiscorbutic electuary, and the distilled water described above in treating of the rheumatism, are beneficial in these disorders; and so is the strengthening electuary, with the addition of an ounce of the conserve of garden scurvy-grass, and six drams of the compound powder of wake-robin, drinking some of the above-mentioned water after it.

9. But if this procedure fail, recourse must be had to the steel waters, and these proving ineffectual, let the sulphurous kind be tried, such as those of Bath.

10. These rules are to be observed in drinking the steel waters. 1. If any bad symptom happen which may be ascribed to them, let them be left off till it vanishes; 2. they must be continued six weeks at least, or rather two months; 3. a little candied ginger, or some carraway comfits, should be taken between whiles to warm the stomach. 4. Three of the hysteric pills, with four or five spoonfuls of the hysteric julap, may also be taken every evening during the first ten nights.

11. As to the Bath waters, let them be drank two days running, and used by the way of bath the third, continuing this method six weeks, or two months.

12. If the steel overheats the body during the course, let two quarts of the purging mineral waters be drank every fourth morning whilst it is continued; because these waters have the property of opening the body, without occasioning any disturbance, as the shop purgatives ordinarily do.

13. If the steel ruffles the constitution considerably, give a dose of laudanum, in a few spoonfuls of some hysteric water, every night for some time.

14. When the strength appears much impaired, from the long continuance of the disease, bleeding and purging are to be omitted, and immediate recourse had to steel.

15. But if the symptoms be moderate, it will be sufficient to bleed first, and afterwards purge three or four times, and then administer the hysteric pills morning and night for ten days.

16. In case of intolerable pain, violent vomiting and purging, laudanum must be exhibited, and afterwards the spirits strengthened. But if the strength will bear it, bleeding and purging must be previously used, especially in women of robust make, and those of a sanguine constitution. In the weak, who have lately had a fit, it is enough to cleanse the stomach with a gallon of posset drink, exhibiting immediately after the operation a large dose of Venice treacle, or the electuary of ORVIETANUS, washing it down with a few drops of laudanum in a few spoonfuls of any spirituous liquor. But if the patient has vomited lately, and vomiting cannot be farther encouraged with safety, such a quantity of laudanum must immediately be given, as may

be sufficient to conquer this symptom, repeating it after every vomiting, in a solid form especially, or in a small proportion of some liquid: for instance, a few drops may be given in a spoonful of strong cinnamon water, the patient in the mean time indulging rest, and keeping her head still. After the symptom is conquered, let the laudanum be continued morning and night for a few days.

17. In the use of laudanum two things must be carefully observed. 1. When once we begin with it after any evacuation, it must be given in a sufficiently large dose, and repeated often enough to conquer the symptom, only intermitting such a space of time between every dose, as may be sufficient to inform us what effect the last hath had before we give another. 2. When the cure of a disease is attempted by laudanum, we must forbear evacuations, and not venture even upon the mildest glyster.

18. The frequent and long continued use of Venice treacle is very serviceable in this and many other diseases proceeding from a want of heat and concoction.

19. A few spoonfuls of an infusion made with the roots of gentian and angelica, the leaves of wormwood and centaury, orange peel and other strengthening ingredients in canary, taken thrice a-day, does great service, provided the patient be not of a thin and bilious constitution.

20. The bark is an excellent remedy, especially in hysteric spasms, a scruple of it being taken morning and night for some weeks.

21. In thin and bilious constitutions a milk diet is proper, especially in the hysteric cholic, provided the inconveniences, wherewith it is attended in the beginning, can be overcome, which are its coagulating in the stomach, and affording too little nourishment to keep up the strength.

22. But nothing does so effectually strengthen the blood, and raise the spirits, as riding much on horseback almost every day for a considerable time; and riding in a coach is no contemptible remedy.

OF THE DEPURATORY OR CLEANSING FEVER OF THE YEARS
1661, 62, 63, 64.

1. IF the patient be young, take away some blood from the arm, and the same day, a few hours afterwards, or the following day, two hours after a light dinner, give a vomit of the antimonial wine, having three quarts or a gallon of posset drink in readiness to take a draught of, immediately after every motion upwards and downwards; and the operation being over, give the following, or a like opiate:

- Take of the distilled water of black cherries, an ounce and half; plague water, half an ounce; liquid laudanum, sixteen drops; syrup of clove-july flowers, two drams; mix them for a draught.

It is not safe to give antimonial wine, even in the smallest dose, to children under fourteen.

2. From this time to the tenth or eleventh day, let the following glyster be injected every morning:

Take of the common decoction for glysters, or milk, a pint; coarse sugar and syrup of violets, each two ounces; mix them for a glyster.

3. And after this time suffer the patient to be costive, that the febrile matter may the sooner come to a concoction; for which purpose, mild cordials administered during the last days are very beneficial.

Take of the compound powder of crabs claws, fourteen grains; the electuary of the egg, half a scruple; syrup of clove-july flowers, enough to make them into a bolus, to be taken every eighth hour, with five or six spoonfuls of the following julap:

Take of milk water and black-cherry water, each three ounces; plague water and syrup of clove-july flowers, each an ounce; mix all together for a julap: or any other similar medicines.

4. If this method be carefully followed, it will generally be found proper, from the laudable separation of the urine, and the manifest abatement of all the symptoms, to give the common purging draught towards the fifteenth day.

5. It sometimes happens, especially in the aged, after the fever is gone off, and purging has been used, that the patient notwithstanding continues very weak, and sometimes by coughing, and other times by spitting, expectorates a copious tough phlegm; in which case, let him drink a glass of old malmsey, with a toast.

6. If an iliac passion succeeds this fever, order a scruple of salt of wormwood to be taken morning and night in a spoonful of lemon juice, and in the intervals let some spoonfuls of mint water by itself be taken twice an hour. At the same time let a live puppy be applied to the belly, and two or three days after the vomiting and purging are gone off, give a scruple of the greater pil. cochiae, dissolved in mint water; observing to keep the live puppy applied to the belly till this time.

7. To prevent a relapse let the use of the mint water be persisted in a considerable time, and the belly preserved from cold by wearing a double flannel.

OF THE PESTILENTIAL FEVER OF THE YEARS 1665, 1666.

1. AFTER the sick person hath been blooded in bed, let him be well covered with cloaths, and a piece of flannel applied to the forehead, and then, if there be no vomiting, give the following, or like sudorific :

Take of Venice treacle, half a dram ; the electuary of the egg, a scruple ; compound powder of crabs claws, twelve grains ; cochineal, eight grains ; saffron, four grains ; the juice of kermes, enough to make them into a bolus, to be taken every sixth hour, with six spoonfuls of the following julap :

Take of the distilled water of holy thistle and compound scordium water, each four ounces ; treacle water, two ounces ; syrup of clove-july flowers, an ounce ; mix them together for a julap.

2. If there be a vomiting, do not give a sudorific till by the weight of the cloaths only the sweat begins to flow, the face being covered with part of the sheet to promote it.

3. When the sweat is begun, it is to be continued for the space of twenty-four hours, by giving draughts of sage posset drink, or mace ale, between whiles ; and the patient during the sweat may be refreshed with restorative broths.

4. After the appearance of a swelling I have not ventured upon bleeding. The patient should keep his bed for twenty-four hours after the sweat is gone off, and be cautious of catching cold ; his linen should be suffered to dry on his body, and his liquids taken warm ; and he should also continue the use of sage posset drink ; but next morning give my common purging potion.

5. The years 1667 and 1668, gave rise to a variolous fever, and the small pox ; the years 1669, 70, 71, and 72, to the dysenteric fever ; and the years 1673, 74, and 75, to the comatous fever : but I do not treat of the cure of these several fevers, because I conceive that they may be conquered by the method specified in treating of the fever of 1685.

OF INTERMITTENT FEVERS.

1. THE fit begins with a chilliness and shaking, which are soon followed by heat and then sweat, that terminates the fever : though in the beginning of this disease, especially in autumn, a remission rather than an intermission is perceived. The cold

and hot fit are both generally accompanied with a vomiting, great sickness, thirst, and a dry tongue. A swelling of the abdomen in children, and of the legs in grown persons, shews that the fever is going off, but a pain of the tonsils, a hoarseness, hollow eyes, and hippocratic face, foretell death.

Take of the Peruvian bark in fine powder, an ounce ; syrup of clove-july flowers. or of red roses, enough to make it into an electuary, to be divided into twelve doses, one of which is to be taken every fourth hour, drinking after it a glass of any sort of wine ; beginning immediately alter the fit.

2. If the electuary runs off downwards, give ten drops of liquid laudanum in a glass of wine after each, or every other dose, as there is occasion. In order to prevent a return of the fever, especially in a quartan, this process is to be repeated every week for three weeks more.

3. If pills are better liked,

Take of the Peruvian bark finely powdered, an ounce ; syrup of clove-july flowers, enough to make it into pills of a middling size, six to be taken every fourth hour.

If a tincture,

Take of the Peruvian bark grossly powdered, two ounces, Rhenish wine, two pints ; digest them together without heat, and strain off the tincture, three ounces of which are to be taken every third or fourth hour.

4. If the fever be accompanied with an almost continual vomiting, so that the patient cannot get down the bark, give a scruple of the salt of wormwood, in a spoonful of fresh lemon juice, six or eight times in the space of two hours ; and afterwards sixteen drops of liquid laudanum in a spoonful of cinnamon water without spirit : and as soon as the vomiting stops let the patient begin with the bark.

5. In vernal intermittents, emetics seasonably administered before the fit, that is, that the operation may be over before its appearance comes on, sometimes cure : and sometimes a glyster injected daily on three or four of the intermediate days, produces a similar effect ; which may likewise be attempted in the following manner :

Take of Virginian snake weed, in fine powder, fifteen grains ; white wine, three ounces ; mix them together for a draught.

Let the patient take it two hours before the fit comes, and being well covered with cloaths, sweat three or four hours afterwards ; and let it be repeated twice in the same manner.

6. In case of great weakness, from the redoubling of the fits.

Take of the conserve of borage and bugloss, each an ounce ; conserve of rosemary, half an ounce ; candied citron peel, candied nutmeg, and Venice treacle, each three drams ; the confection of alkermes, two drams ; mix them together and make an electuary, of which the quantity of a hazle nut is to be taken morning and night, drinking after each dose a few spoonfuls of any simple plague water, sweetened with sugar, and forbidding the use of glysters during the process.

7. If a dropsy happens in the declension of the disease, the fever not being yet removed, the cure must not be attempted by purgatives, but by horseradish root, the tops of wormwood, the lesser centaury, juniper berries, and broom ashes, &c. infused in wine ; but after the fever is gone off, by purgatives and aperients.

In children seized with this disease proceed thus :

Take of the distilled waters of black cherries and Rhenish wine, each two ounces ; the Peruvian bark finely powdered, three drams ; syrup of clove-july flowers, an ounce ; mix them together for a julap, a spoonful or two of which, according to the age of the child, is to be taken every fourth hour, till the fits are gone off, dropping into every other dose, in case of a looseness, one or two drops of liquid laudanum.

OF THE STATIONARY FEVER FROM THE YEAR 1685 TO 1690.

1. THIS fever was attended with the following symptoms :—Heat and cold succeeding each other ;—a pain of the head and limbs ;—the pulse in the mean time differing little from a healthy state ;—a cough sometimes ;—a pain in the neck and jaws ;—an increase of the fever towards night ;—restlessness ;—thirst ;—the tongue either moist and quite covered with a white rough skin, or dry and brown in the middle, and white round the edges. From lying always in bed, a coma and delirium occur ;—and the effects of a hot regimen are, petichiaë, purple spots, miliary eruptions redder than the measles, an irregular pulse, startings of the tendons, and at length death.—Symptomatic sweats happen in the beginning, which being promoted by art, appear clammy in the head, and drive the morbid matter there, or to the limbs.

2. Take away ten ounces of blood from the arm, and repeat the bleeding, if a difficulty of breathing, acute pain of the head in coughing, and other signs of the bastard peripneumony appear.

And in this case bleeding and purging must be repeated till the patient recovers.

3. At night apply a blister, and next morning prescribe a laxative draught, which must be repeated every other day, to a third time, and a composing draught given in the evening after the operation.

Take of the distilled water of cowslips, three ounces ; syrup of white poppies, an ounce ; fresh lemon juice, two spoonfuls ; mix them for a draught.

4. The aphthæ and hiccup which succeeded spontaneously after the cure of the fever, ordinarily go off in the same manner, but if they continue long, are easily removed with an ounce of the Peruvian bark, made into an electuary, or pills, with a sufficient quantity of the syrup of red poppies, a dram whereof is to be taken twice or thrice a-day, drinking after each dose a draught of whey. This medicine will certainly answer the end, if the virtues of it be not destroyed by lying constantly in bed.

5. On the intermediate days of purging, direct the following :

Take of the conserves of wood sorrel and hips, each an ounce ; the conserve of barberries, half an ounce ; cream of tartar, a dram ; syrup of lemons, enough to make them into an electuary, of which the quantity of a nutmeg is to be taken thrice a-day, with six spoonfuls of the following julap :

Take of the distilled waters of purslain, lettuce, and cowslips, each three ounces ; lemon juice, an ounce and half ; syrup of violets, an ounce ; mix them together for a julap.

Or,

Take of spring water, a pint ; rose water, lemon juice, and fine sugar, each four ounces ; boil them together over a slow fire till the scum rises, which must be carefully taken off : three ounces of it may be taken at pleasure.

The following gargarism is likewise proper :

Take of verjuice, half a pint ; syrup of raspberries, an ounce ; mix them for a gargarism.

6. If the stomach be so much disordered by the fever, that a draught cannot be kept down, give two scruples of the greater pil. cochix, and in this case an opiate is also to be exhibited ; for instance, a grain and a half of laudanum, with the same quantity

of mastich, or eighteen drops of liquid laudanum, in an ounce of small cinnamon water.

7. The white decoction made with an ounce of burnt hartshorn, boiled in three pints of spring water, and sweetened with fine sugar, may serve for common drink ; as may small beer likewise at pleasure.

8. When the patient has been purged twice, he may be allowed to eat chicken, and after the last purgation, provided the fever be a little abated, four spoonfuls of canary may be given him in the morning and afternoon, and at night also, for some days.

9. Nothing is more serviceable in a delirium, or coma, than shaving the head, without applying a plaister, but only wearing a cap.

10. If, as it sometimes happens in hysteric women, the fever continues after this repeated bleeding and purging, then, provided there be no signs of a peripneumony, and inflammation about the vital parts, let an opiate be ordered every night, and hysteric medicines twice or thrice a-day.

HOW CHILDREN ARE TO BE TREATED IN THE STATIONARY FEVER.

1. APPLY two leeches behind each ear, and a blister to the neck, and purge them with an infusion of rhubarb in beer.

2. If the fever seem to intermit after purging, exhibit the julap with the Peruvian bark, above set down, in treating of intermitting fevers.

OF THE SCARLET FEVER.

1. THE scarlet fever chiefly attacks children towards the close of summer: they are chill, and shake in the beginning, but not very sick; the skin is covered with small red spots, which are more numerous, large, and redder than the measles, and continue two or three days; after which the scarf skin falling off, the true skin appears marked with branny scales.

Take of burnt hartshorn finely powdered, and compound powder of crabs claws, each half a dram; cochineal, two grains; fine sugar, a dram; make them into a fine powder, to be divided into twelve parts, one of which is to be taken every six hours, drinking after it two or three spoonfuls of the following julap.

Take of black cherry and milk water, each three ounces; syrup of citron juice, one ounce; mix them for a julap.

2. Apply a blister, likewise, to the neck, and give an opiate of the syrup of white poppies every night ; and the symptoms being gone off, exhibit a purge.

OF THE PLEURISY.

1. **THIS** disease prevails between the spring and summer : it begins with a chillness and shaking, which are soon accompanied with heat, thirst, restlessness, and the other symptoms of a fever ;—in a few hours the patient feels a violent pain in one side, near the ribs, which sometimes extends to the scapula, sometimes to the spina dorsi, and sometimes to the fore part of the breast ;—he has likewise a violent cough ;—the matter expectorated at the beginning of the disease is small in quantity, thin, and frequently streaked with blood ; but in the course thereof it is more copious and concocted, and also mixed with blood ;—the fever keeps pace with the cough, the spitting of blood, and the pain ; and abates gradually, according as expectation becomes easier ;—the body is sometimes costive, and sometimes too open ; and the blood, when cold, looks like melted tallow.

2. Take away ten ounces of blood from the arm of the affected side.

Take of the distilled water of red poppies, four ounces ; sal prunella, a dram ; syrup of violets, an ounce ; mix them for a draught, to be taken immediately after the first bleeding.

Take five sweet almonds blanched ; melon and pumpkin seeds, of each half an ounce ; the seeds of white poppies, three drams ; barley water, a pint and half ; rose water, two drams ; sugar candy, enough to sweeten it : make the whole into an emulsion, four ounces of which should be taken every fourth hour.

Take of the pectoral decoction, a quart ; syrup of violets, and maiden hair, each an ounce and half : mix them for an apozem, of which half a pint is to be taken three times a-day.

Take of oil of sweet almonds, two ounces ; syrup of violets, and maiden hair, each an ounce ; sugar candy, enough to make them into a linctus.

Oil of sweet almonds by itself, or fresh drawn linseed oil, may be also given.

Take of the oils of sweet almonds and lilies, and marshmallow ointment, each an ounce ; mix them together into a liniment, with which anoint the affected side morning and night, applying a cabbage leaf thereto.

3. The bleeding is to be repeated in the same quantity, three days running, if the pain and difficulty of breathing require it.

OF THE BASTARD PERIPNEUMONY.

1. **THIS** distemper arises towards the beginning, and frequently at the close of winter. At the beginning the patient is hot and cold by turns;—giddy upon the least motion;—his eyes and cheeks are red and inflamed; he has a cough, and in coughing feels a violent pain in the head;—he vomits up all liquids;—the urine is turbid, and very high coloured;—the blood taken away resembles pleuritic blood;—he breathes quick, and with difficulty, and has a pain in his breast. This disease is distinguished from a dry asthma, as being accompanied with evident signs of a fever, which never appear in that distemper, though they are much more gentle and latent than in the true peripneumony.

2. Let ten ounces of blood be taken away from the right arm, and the next day give this purging draught :

Take of the pulp of cassia, fresh extracted, an ounce; liquorice root, two drams; four fat figs; the leaves of senna, two drams and a half; troches of agaric, a dram; boil them together in a sufficient quantity of spring water to four ounces; in the strained liquor dissolve an ounce of manna, and half an ounce of the solutive syrup of roses; mix the whole for a draught.

3. But if the patient cannot take a draught, give him two scruples of the greater pil. cochiaë, at four in the morning.

4. Let the bleeding be repeated the next day in the same quantity, and the day after give another purgative, which is to be repeated every other day, or seldomer, according to the strength of the patient. And farther, if the symptoms do not go off, bleeding must be again repeated once, twice, or oftener, interposing some days between each bleeding, as there is occasion; but a second bleeding will mostly suffice. During this course, the patient should use the pectoral decoction, the linctus, and oil of sweet almonds, prescribed above in treating of the pleurisy, especially on the intermediate days of purgation.

OF THE RHEUMATISM.

1. **THIS** disease begins with a chilness and shaking, with the other signs of a fever;—in a day or two, and sometimes sooner, a violent pain seizes sometimes one limb, and sometimes another, but especially the wrists, shoulders, and knees, leaving a redness and swelling in the part last affected:—the fever goes off

by degrees, whilst the pain continues, and sometimes increases. A rheumatic lumbago is accompanied with a severe fixt pain in the region of the loins, resembling a fit of the stone in every thing but a tendency to vomit; the patient cannot lie down in bed, but either gets up, or sits upright therein, and is perpetually moving his body backwards and forwards; the blood is sizy, as in a pleurisy.

2. Let ten ounces of blood be taken away from the arm of the affected side.

Take of the distilled waters of water lily, purslain, and lettuce, each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them for a julap, some of which may be drank at pleasure.

3. Emulsions of the four greater cold seeds should be prescribed, and a cataplasm, made of the crumbs of white bread and milk, tinged with saffron, applied to the part affected.

4. The next day take away the same quantity of blood, and bleed again in a day or two, and repeat the operation a fourth time, or oftener, if there be occasion, observing after the second time to repeat the bleeding at greater intervals.

5. On the intermediate days of bleeding, inject a glyster of milk and sugar between times, or the following:

Take of the common decoction for glysters, a pint; syrup of violets and coarse sugar, each two ounces; mix them for a glyster.

6. If the patient be too weak to bear repeated bleeding, the cure, after the second or third bleeding, must be attempted in the following manner:

7. Exhibit my common purging potion every other day, till the disease goes off, and in the evening, after the operation, an opiate of syrup of white poppies.

8. If the distemper does not yield to these remedies, and the patient is too weak to bear any evacuations, give him the antiscorbutic electuary and distilled water, described in treating of the scurvy, which are also proper in a scorbutic rheumatism.

9. In young persons, and such as live temperately, and drink wine with moderation, the rheumatism may be as successfully cured by a very cooling and moderately nourishing diet, as by repeated bleeding, which they cannot so well bear.

10. For instance: let the patient live upon whey only for four days running, and afterwards, besides the whey, he may eat a piece of white bread once a day, instead of a dinner, till he re-

covers; only towards the declension of the disease, a piece of bread may likewise be allowed him at supper. When the symptoms are gone off, his diet may be boiled chicken, and other food of easy digestion; but every third day he must live only upon whey, till he is perfectly recovered.

OF THE ERYSIPELATOUS FEVER.

1. IN this distemper all the parts of the body, but especially the face, swell, and are painful and red;—small pimples appear, which sometimes rise up into blisters, and spread over the forehead and head;—the eyes are buried under the swelling;—a chillness, shivering, and other signs of a fever, accompany these symptoms. In the other kind of this disorder, which is occasioned by drinking, there is a slight fever, attended with pimples, not unlike those caused by the stinging of nettles; which sometimes rise up into blisters, and soon after vanish, and lie hid under the skin, where they produce a very troublesome itching, and, upon scratching, come out again. There is also another kind of eruption, that generally appears in the breast, being a broad spot with yellow scales, which scarce rises higher than the skin, and whilst it keeps out, the patient is not at all indisposed, but when it strikes in, a slight sickness succeeds, and the urine is turbid and yellow; it yields to the same remedies as the stubborn itch, only wine, and flesh of easy digestion, may be used.

2. Take away nine or ten ounces of blood from the arm, and next day exhibit my common purging potion.

Take of the roots of marshmallows and lilies, each an ounce; the leaves of mallows, elder, and mullein, the flowers of camomile and melilot, and the tops of St. John's wort, and the lesser centaury, each one handful; linseed and fenugreek seed, each half an ounce; boil them together in a sufficient quantity of water to leave three pints, and to every pint of the strained liquor, when it is used, add two ounces of spirit of wine.

Let the part affected be fomented twice a day with flannels dipped in this fomentation, first made hot, and wrung dry; and, after fomenting, bathe it with the following mixture:

Take of spirit of wine, half a pint; Venice treacle, two ounces; long pepper and cloves, reduced to powder, each two drams: mix them together: cover the part affected with brown paper moistened with this mixture.

3. If the first bleeding does not cure the disorder, have recourse

to the operation again, and this failing, repeat it twice more, interposing a day between each bleeding.

4. On the intermediate days of bleeding, order a glyster of milk and syrup of violets, and a cooling emulsion and julap.

OF THE STUBBORN ITCH, AND OTHER INVETERATE ERUPTIONS OF THE SKIN, WHICH YIELD NOT TO BLEEDING AND PURGING.

1. TAKE of Venice treacle, half a dram; electuary of the egg, a scruple; Virginian snake root, in fine powder, fifteen grains; oriental bezoar, five grains; syrup of candied citron, enough to make them into a bolus, to be taken every night, at bed time, for the space of one and twenty days, drinking after it six spoonfuls of the following julap:

Take of the distilled water of holy thistle, six ounces; plague and treacle waters, each two ounces; syrup of clove-july-flowers, an ounce; mix them for a julap.

2. The patient should drink half a pint of warm posset drink every morning, and sweat an hour after it.

3. This course being over, if the eruptions still continue, let the parts affected be anointed with the following liniment:

Take of the ointment of sharp pointed dock, two ounces; pomatum, an ounce; flower of sulphur, three drams; oil of rhodium, half a scruple: mix them together for a liniment.

4. But these medicines must not be used before the patient hath been properly blooded and purged.

OF THE QUINSEY.

1. THE quinsey commonly comes between spring and summer; the fever accompanying it is soon succeeded by a pain and inflammation of the fauces, uvula, tonsils, and larynx; these parts being so much swelled as to hinder deglutition and respiration.

2. Bleed plentifully in the arm, and let the inflamed parts be besmeared with honey of roses, well acidulated with spirit of vitriol, or spirit of sulphur; and soon after let the following gargarism be used, not in the common way, but held quietly in the mouth, till it grows warm, and then spit out; and repeat it in this manner between times:

Take of the distilled waters of plantain, red roses and frogs spawn, of each four ounces; three whites of eggs, beat to a

liquor; fine sugar, three drams; mix them together for a gargarism.

And let the cooling emulsion, prescribed in the cure of the pleurisy, be daily used.

3. Next morning, unless the fever and difficulty of swallowing be abated, bleeding must be repeated, and purging deferred till the subsequent day, otherwise a gentle purge may be given.

4. If the disorder still continues, which very rarely happens, let bleeding and purging be farther repeated, and a large strong blistering plaister applied between the shoulders, after the first bleeding.

5. On the intermediate days of purging, inject a cooling and emollient glyster in the morning: the patient must use a sparing diet, and sit up a few hours every day.

6. In all these fevers, which I call intercurrent, and in those likewise which I term stationary, it must be carefully observed, that the patient should sit up a great part of the day, and live upon barley gruel, and water gruel, and the like kind of diet, and use small beer and milk and water for his common drink.

OF THE MEASLES.

1. CHILDREN are chiefly subject to this disease; which hath the following symptoms: The first day they are seized with a chilness and shivering, and heat and cold succeed by turns;—the second day a perfect fever comes on, accompanied with great sickness;—thirst;—loss of appetite;—a white, but not a dry tongue;—a slight cough;—heaviness of the head and eyes, with a continual drowsiness;—a constant distillation from the nose and eyes, and an effusion of tears, which is the most certain sign of the measles.—These symptoms are succeeded by a sneezing, a swelling of the eye lids, immediately preceding the eruption, a vomiting and a looseness, attended with green stools, especially in children whilst they are breeding teeth. The symptoms increase till the fourth day, at which time, and sometimes on the fifth day, little red spots, like flea bites, appear in the forehead and face, which growing more numerous and large, run together, and mark the face with large red spots, which are composed of small red pimples, rising a little higher than the skin, and may be felt by pressing them lightly with the finger, but can scarce be seen. From the face, where only they first shew themselves, these spots extend to the breast and belly, and then to the thighs and legs; but in these parts they are large and red, and do not rise above the surface of the skin.

2. The symptoms do not abate upon the eruption in this disease, as in the small pox; the vomiting indeed does not continue

afterwards, but the fever, cough, and difficulty of breathing increase, and the distillation from the eyes, the drowsiness and loss of appetite remain. On the sixth day, or about that time, the forehead and face grow rough, the eruptions begin to dry, and the skin separates; but in the other parts of the body the spots appear very large and red. About the eighth day they vanish in the face, and scarce appear in the rest of the body. On the ninth day they disappear entirely, and the face, limbs, and sometimes the whole body, seem covered with branny scales; but the cough, fever, and difficulty of breathing, grow worse. A hot regimen in grown persons makes the eruptions turn livid at first, and then black.

Take of the pectoral decoction, a pint and half; syrup of violets and maiden hair, each an ounce and half; mix them together for an apozem, and let three or four ounces of it be taken three or four times a day.

Take of oil of sweet almonds, two ounces; syrup of violets and maiden hair, each an ounce; white sugar candy, enough to make them into a linctus, to be taken often in a small quantity, especially when the cough is troublesome.

Take of black cherry water, three ounces; syrup of white poppies, an ounce: mix them together for a draught, to be taken every night the distemper throughout; lessening or increasing the dose, according to the age of the patient.

3. The patient should lie in bed for the first two days after the eruption.

4. If a fever, a difficulty of breathing, and other symptoms resembling a peripneumony, succeed after the measles are gone off, bleed plentifully in the arm, and repeat the operation a second or third time, as there is occasion, interposing a proper interval between each: and continue the use of the pectoral decoction and linctus above described, together with the oil of sweet almonds by itself. About the twelfth day from the beginning of the distemper give a gentle purge.

5. The looseness succeeding the measles is cured by bleeding.

OF THE SMALL POX.

1. THE small pox is of two kinds; either distinct, or confluent. The distinct kind begins with—chilness and shivering;—great heat;—a violent pain in the head and back;—vomiting;—a considerable tendency to sweat in grown persons, whence it may be conjectured, that the small pox will not prove of the confluent kind;—a pain under the scrobiculum cordis upon pressing it with the hand;—drowsiness and stupor sometimes;—epi-

leptic convulsions, especially in children, which happening after dentition, one may foretel that the small pox is just approaching; so that for instance, supposing a child to be seized with a convulsive fit over night, a kindly small pox will appear next morning, and very rarely of the confluent sort.

2. On the fourth day, inclusive, from the beginning of the distemper, sometimes later, but seldom sooner, the eruptions come out, at which time the symptoms abate, or go off entirely. At first, reddish pustules as large as the head of a small pin, appear scattered up and down in the face, neck, breast, and the whole body, and at the same time a pain seizes the fauces, and increases proportionably as the eruptions fill.

3. About the eighth day, from the first seizure, the spaces between the pustules, that appeared white before, begin to grow red, swell, and are painful; the eye lids are distended so as to close the eyes, and resemble an inflated bladder. Next after the face, the hands and fingers swell, and the eruptions on the face, that till this day were smooth and red, now grow rough and whitish (which is the first sign of suppuration) and discharge a yellow matter, in colour not unlike a honey comb. The inflammation of the face and hands, being in the mean time come to its height, renders the spaces between the eruptions of a florid red colour, resembling that of damask roses: and the milder the small pox is, the nearer do the eruptions and their intermediate spaces approach this colour. The pustules on the face grow every day rougher and yellower, as they suppurate, while those of the hands and other parts appear smoother and whiter.

4. On the eleventh day, the swelling and inflammation of the face vanish, and the eruptions being come to their due maturity and size, equalling that of a large pea, dry, and scale off. On the fourteenth or fifteenth day they disappear entirely, but those of the hands being more stubborn, and yet white and fresh, continue a day or two longer, after which they burst; and those of the face and body scale off, and in the face are succeeded by pits or pock-marks.

5. The patient is either quite costive, or hath few stools throughout the whole course of the disease. Most of those whom this distemper kills, die on the eighth day in the distinct kind, and on the eleventh in the confluent: for when sweat is promoted in the distinct sort by cordials and a hot regimen, the face, which on the eighth day ought to swell, and be inflamed in the spaces between the eruptions, on the contrary appears whitish and sunk, whilst the pustules notwithstanding continue red and plump, even after the death of the patient. The sweat which flowed freely to this day ceases suddenly, and the patient in the mean time is seized with a delirium, restlessness, sickness, and frequency of making urine in small quantities, and in a few hours expires.

6. The confluent small pox is accompanied with the same symptoms, but they are more violent: the fever, for example, restlessness, sickness, and vomiting, &c. rage more severely, but there is less tendency to sweat than in the distinct kind. Sometimes a looseness precedes, and lasts a day or two after the eruption, which it scarce ever does in the distinct kind. The eruption, in this sort of small pox, happens on the third day, or earlier, but seldom later, and the sooner the pustules come out, the more they run together. Sometimes, however, the eruption is retarded to the fourth or fifth day by some violent symptoms; as, for instance;—a sharp pain in the loins, resembling a fit of the stone;—in the side, like a pleurisy;—in the limbs, like a rheumatism; or—in the stomach, accompanied with great sickness and vomiting. The confluent sort differs from the distinct in this, that the symptoms do not abate immediately after the eruption, but the fever and its concomitants afflict the patient for several days afterwards. Sometimes the pustules come out like an erysipelas, and sometimes like the measles; but they may readily be known from both by the time of the eruption. In the progress of the disease, the pustules do not come to any considerable bigness, but run together in the face, and cover it like a red bladder, and make it swell sooner than in the distinct sort; at last they appear like a white pellicle, closely adhering to the face, and rising a little above the skin.

7. After the eighth day this pellicle grows every day rougher, and inclines to a brown colour; the skin is tenderer, and in the worst sort of the confluent small pox falls off in large scales, but not till after the twentieth day. It is worth observing, meantime, that the nearer the pustules, as they suppurate, incline to a dark brown colour, so much the worse they are, and the longer in falling off; but the yellower they are, the less they run together, and the sooner they vanish.

8. When the pellicle first falls off, the face appears smooth, but it is soon succeeded by branny scales, of a very corrosive nature, which leave large pits and frequently seams behind them. Sometimes the skin of the back and shoulders scale off. The danger of the disease is to be estimated by the number of the eruptions on the face only. Those of the hands and feet are larger than those of the other parts, and the nearer they approach the trunk the less they are.

9. In grown persons a salivation, and in children a looseness (though not so certainly) accompanies the confluent kind. The salivation sometimes begins with the eruption, and sometimes not till two or three days afterwards. At first the matter is thin, but on the eleventh day it grows more viscous, and is raised with great difficulty. The patient is thirsty, and is seized with a hoarseness, great stupor and drowsiness, coughs between whiles

as he drinks, and the liquor flies out at the nostrils. At this time the salivation generally stops, which, if it were not supplied by the swelling of the face, and the swelling of the hands, now manifestly beginning, and lasting longer than the former, would immediately destroy the patient. For though the swelling of the face, according to the nature of the disease, ought to abate a little on this day, yet it should not sink entirely till a day or two afterwards. The looseness does not attack children so soon as the salivation does grown persons.

10. In both the kinds of the small pox, the fever rages from the beginning of the illness to the time of the eruption, after which it abates till the suppuration begins, which being finished, it goes off. Wrong management occasions abundance of irregular symptoms, as a sinking of the pustules, a delirium, or coma, purple spots between the eruptions, with small black spots on the top of them, deprest in the middle; bloody urine, and spitting of blood in the beginning of the distemper, and a suppression of urine.

11. The separation is finished with a febrile ebullition, in the first three or four days, and the expulsion is formed during the rest of the time by means of small abscesses in the flesh.

12. In the mildest sort of the confluent small pox, the eleventh day, inclusive, from the beginning of the illness, is the most dangerous, the fourteenth in the middle sort, the seventeenth day in the worst kind: but sometimes the patient does not die before the twentieth day, which however very rarely happens. Moreover, a very troublesome fit of restlessness comes on every day towards evening, from the eleventh to the seventeenth day.

13. Take away nine or ten ounces of blood upon any of the first three days, and afterwards give a vomit of an ounce, or an ounce and half of antimonial wine.

14. During the first stage of the distemper, that is, till the eruption be over, let the blood be diluted by drinking small beer often.

15. As soon as all the pustules are come out, which ordinarily happens on the sixth day from the beginning of the illness, give an ounce of the syrup of white poppies every evening till the tenth day; and that night, if the small pox be of the confluent kind, increase the dose to an ounce and half, and from this time forward give an ounce every morning, and an ounce and half at night, till the patient recovers.

16. If the syrup of poppies does not agree with the patient, liquid laudanum may be exhibited in its stead; for instance, eighteen drops of it for an ounce of the syrup, and twenty-five drops for an ounce and half; observing, in the mean time, if the opiate fails to quiet the tumult (as it frequently does at the declension

of the most confluent small pox) to give it every eighth hour, or oftener, if there be occasion.

17. But in the distinct small pox the opiate need only be exhibited every night, after the eruption is over, and in a smaller dose likewise.

18. But of whatever kind the small pox be, and at whatever time of the disease it happens, if a delirium comes on, it is indispensably necessary to check the irregular motion of the spirits; and therefore, if the first opiate does not answer the end, it must be repeated till the disturbance be quieted, interposing such a space of time between every dose, that we may be assured whether the last hath been effectual for that purpose, before we exhibit another.

19. If a total suppression of urine happens, the patient must be taken out of bed, and walk a few turns about his room.

20. If the heat renders the saliva so viscons that it cannot be got up, the throat must be frequently syringed with a gargarism of small beer or barley water with honey of roses; or the following may be used for this purpose:

Take of elm bark, six drams; liquorice root, half an ounce; stoned raisins, twenty; red roses, two pugils; boil them together in a sufficient quantity of water to a pint and half; in the strained liquor dissolve simple oxymel and honey of roses, of each two ounces; mix them for a gargarism.

21. If there be occasion for a blistering plaister, apply a large strong one to the neck, on the evening preceding the great crisis of the disease, and immediately afterwards exhibit the opiate. Garlic may also be applied to the bottom of the feet, from the eighth day to the end of the distemper, and renewed every day.

22. If a child be seized on a sudden with convulsions after dentition, it may be considered that in all probability they proceed from the effort of nature to expel the small pox, scarlet fever, or the measles, to the outward parts; and therefore let a blistering plaister be applied to the neck, and the child immediately put to bed, and a cordial also exhibited; mix them with a small quantity of some opiate; for instance, five drops of liquid laudanum, in a spoonful of plague water, to a child of three years of age.

23. If on the eleventh, or any succeeding day, the second fever, attended with restlessness, and the other symptoms of this kind, rises so high that it cannot be checked by opiates, though repeated with the greatest frequency, and even endangers life; in this case, let a sufficient large quantity of blood, for instance, twelve ounces, or thereabouts, be immediately taken away, and the operation may be repeated a second or third time on the subsequent days, if the above-mentioned symptoms require it, but

not otherwise. A lenient purgative may also be ordered on the thirteenth day, but not sooner, or any of the following days, provided bleeding hath been previously used ; for instance, an ounce of lenitive electuary, dissolved in four ounces of succory or milk water. But neither bleeding or purging obstruct the use of opiates, which, notwithstanding these evacuations, ought to be given in a large dose, and repeated according to the exigency of the case ; for we are always to have recourse to opiates in this disease.

24. When the pustules are quite dry, the face may be anointed with a liniment made of equal parts of oil of sweet almonds and pomatum, for two days, but not longer.

25. On the twenty-first day from the beginning of this distemper, take away some blood from the arm, and the next day give a purge, and repeat it every other day, to a fourth time.

26. As to the regimen, the patient should sit up in the day time till the sixth day, and afterwards keep his bed constantly till the seventeenth, but not have more cloaths laid on him than he was accustomed to when in health.

27. His diet should be water gruel, barley gruel, roast apples, and small beer ; and after the eleventh day he may drink four or five spoonfuls of canary, twice a day if he likes it.

28. If the swelling of the legs yields not to the above-mentioned evacuations, it may easily be removed with a fomentation made of the leaves of mallows, mullein, elder, and laurel, and the flowers of camomile and melilot boiled in milk.

29. If a spitting of blood, or bloody urine, happen in the first stage in the disease, let the powder and julap, set down in my dissertation on the second fever in the confluent small pox, be carefully exhibited every sixth hour, till these symptoms entirely disappear : in this case opiates also may be given freely.

OF ST. VITUS'S DANCE.

1. **THIS** disorder is a kind of convulsion, which seizes children of both sexes, from the tenth to the fourteenth year ; it manifests itself by a halting, or unsteadiness of one of the legs, which the patient draws after him like an idiot. If the hand of the same side be applied to the breast, or any other part of the body, the child cannot keep it a moment in the same posture, but it will be drawn into a different one by a convulsion, notwithstanding all his efforts to the contrary. Before a child who hath this disorder can get a glass or cup to his mouth, he useth abundance of odd gestures ; for he does not bring it in a straight line thereto, but his hand being drawn sideways by the spasm, he moves it backwards and forwards, till at length the glass accidentally coming nearer his lips, he throws the liquor hastily into his mouth, and swallows it greedily, as if he meant to divert the spectators.

2. Take away eight ounces of blood from the arm, or a quantity best adapted to the age of the patient.

3. The next day give him one half, or a little more, of my common purging potion, according to his age, and at night the following draught :

Take of black cherry water, an ounce ; compound piony water three drams ; Venice treacle, a scruple ; liquid laudanum, eight drops ; mix them together for a draught.

Repeat the purgative thrice, once every other day, and give an opiate at night, after the operation.

4. Afterwards bleed again and purge, as before, and in this manner let bleeding and purging be repeated a third or fourth time ; allowing such intervals between the alternate evacuations, as to prevent all dangers therefrom.

5. On the intermediate days of purging, let the following remedies be used :

Take of the conserve of Roman wormwood and orange peel, each an ounce ; the conserve of rosemary, half an ounce ; old Venice treacle, and candied nutmegs, each three drams ; candied ginger, a dram ; syrup of citron juice, enough to make them into an electuary, of which let the quantity of a nutmeg be taken every morning, and at five in the afternoon, drinking after it five spoonfuls of the following wine :

Take of the roots of piony, elecampane, masterwort and angelica, each an ounce ; the leaves of rue, sage, betony, germanander, white horehound, and the tops of the lesser centaury, each a handful ; juniper berries, six drams ; the peel of two oranges : these ingredients being sliced, cut, and bruised as they require, let them infuse, without heat, in six pints of canary ; strain it off only as it is used.

Take of rue water four ounces ; compound piony and briony water, each an ounce ; syrup of piony, six drams ; mix them together for a julap, four spoonfuls of which must be taken every night at bed-time, dropping into it eight drops of spirit of hartshorn.

6. Apply a plaister spread on leather, of the plaister of gum caranna, to the soles of the feet.

7. To prevent a relapse, open a vein, and purge for some days, about the same season of the following year wherein the disease first appeared.

8. It seems probable to me that this method might suit the falling sickness in grown persons, which, however, I have not

yet experienced. But as St. Vitus's dance happens only to children, if this method be used in the epilepsy in grown persons, more blood must be taken away, and the purgative made stronger.

OF THE APOPLEXY.

1. An apoplexy is a total deprivation of sense and motion, excepting that of respiration, which is performed with difficulty and snoring.

2. Take away twelve ounces of blood immediately from the arm, and afterwards eighteen from the jugular, and presently after exhibit a vomit of an ounce and a half, or two ounces of the antimonial wine.

3. Apply a large strong blistering plaister between the shoulders, and during this procedure let the patient sit upright in bed, and a vial of highly rectified spirit of sal-ammoniac be held to his nose.

4. As soon as the vomit has done working, give three or four spoonfuls of the following julap, repeating the dose at proper intervals :

Take of rue water, four ounces ; compound briony and piony water, of each an ounce ; spirit of hartshorn, twenty drops ; fine sugar, enough to sweeten it ; mix the whole for a julap.

Or, a spoonful of the compound spirit of lavender may be given by itself twice or thrice during the fit, at an hour, or half an hour's distance between every dose.

5. Care must be had not to administer too hot cordials, nor to give them too often, as is commonly done ; for whatever specific virtue they may seem to be possessed of, they do more mischief than good, as being apt to dissolve the juices, and consequently to increase the disease : which inconvenience is likewise occasioned by keeping the patient too warm.

6. After the fit is over, let the following medicines be used to prevent a relapse. Give two scruples of the greater pil. cochix made into pills, at four o'clock in the morning, so that the patient may sleep upon them, and repeat them every third day to a sixth time.

Take of the conserve of the flowers of sage and rosemary, each an ounce ; the conserve of orange peel, six drams ; candied nutmegs and candied ginger, each half an ounce ; old Venice treacle, two drams ; the powders for the electuaries of diam-bra and sweet musk, each a dram ; syrup of candied citron, a sufficient quantity to make them into an electuary ; of which

let the quantity of a chesnut be taken morning and evening, drinking after it two spoonfuls of compound piony water.

Take of ambergrease, half a dram; the distilled oils of aniseed, cinnamon and nutmegs, each two drops; oil of cloves, one drop; fine sugar dissolved in the distilled water of orange flowers, four ounces; make them into troches, according to the rules of art: one of which may be taken at pleasure.

7. The patient should refrain from all kinds of spirituous liquors, and live upon water or barley gruel, chicken broth, and sometimes also upon chicken, lamb, and the like food of easy digestion, especially on those days he purges.

OF AN INFLAMMATION OF THE EYES.

1. THIS disorder manifests itself by the inflammation of the part.

2. Take ten ounces of blood from the arm, and next day exhibit my common purging potion, which must be repeated a third time, interposing two days between every purge; and at night, after the operation is over, give a quieting draught of an ounce of syrup of white poppies.

3. On the intermediate days of purging, let him take four ounces of an emulsion made with the greater cold seeds, and white poppy seeds, three or four times a day.

4. After the first purge, let the following eye water be used:

Take of the distilled waters of plantain, roses and frog spawn, each an ounce; prepared tutty, reduced to powder, a dram; mix them for an eye water, of which let a few drops be dropped into the eyes twice every day.

5. If the disorder yields not to these remedies, let bleeding be repeated once or twice more (especially if the blood resembles that taken away in a pleurisy) and purging likewise.

6. The patient should forbear wine, and all spirituous liquors, and all kind of food that is salt and hard of digestion, and on the intermediate days of purging, drink milk boiled with water.

7. It must be observed, that bleeding and purging, though repeated with the greatest frequency, often prove ineffectual in an inflammation of the eyes, in which case an ounce of the syrup of white poppies, administered every night, perfects the cure without any other helps from medicine.

OF THE BEARING DOWN OF THE WOMB.

TAKE of oak bark, two ounces; boil it in two quarts of spring water to one, adding, towards the end of the operation, pomegranate bark, bruised, red rose leaves and balaustines, of

each two handfuls ; and lastly. half a pint of red wine : strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning two hours before the patient gets up, and at night after she is in bed, till the disorder goes off entirely.

OF A FIT OF THE STONE IN THE KIDNEYS.

1. IT is accompanied with the following symptoms :—A fixed pain in the region of the loins ;—bloody urine ;—the voiding of a stone or gravel ;—a numbness of the leg on the side affected ;—the testicle of the same side drawn into the scrotum, and a nausea and vomiting. The colic is not much unlike a fit of the stone, though it manifestly differs from this disorder in some symptoms, which we have already enumerated in treating of the bilious colic.

2. If the patient be of a sanguine constitution, take away ten ounces of blood from the arm of the contrary side ; then let a gallon of posset drink, wherein two ounces of marshmallows have been boiled, be drank as expeditiously as possible, and the following glyster injected :

Take of the roots of marshmallows and lilies, each an ounce ; the leaves of mallows, pellitory, bear's breech, and camomile flowers, of each a handful ; linseed and fenugreek seed, each half an ounce ; boil them in enough spring water to leave a pint and a half of strained liquor for a glyster.

3. When the posset drink is thrown up, and the glyster comes away, give a sufficiently large dose of liquid laudanum, for instance, twenty-five drops, or fifteen or sixteen grains of Matthew's pill.

4. But in persons in years, and such as are much weakened by a long continuance of the disease, and likewise in aged women that are subject to the vapours, bleeding is to be omitted, especially if they part with black sandy urine in the beginning of the fit, but in all other respects the above-mentioned method is to be followed.

OF BLOODY URINE FROM THE STONE IN THE KIDNEYS.

1. THE patient should take weekly, on a set day, two ounces and a half of manna dissolved in a quart of whey.

2. It is proper sometimes to drink a large draught of small beer.

3. If there be a large stone in the kidneys, a heavy dull pain, easily bearable, is felt, which increases not at all, nor is accompanied with a nephritic paroxysm.

4. The patient cannot safely enter upon a course of steel waters, without being first well assured that the stone is not too large to pass the ureters, which can only certainly be learnt from his having had a fit of the stone before, attended with a very severe pain in one kidney, extending through the whole duct of the ureters, and excessive vomiting, in which case we may be certain there is no large stone, but rather a number of small ones, one of which will fall from time to time into the ureters, and so cause a fit, which seldom terminates, till the stone is produced into the bladder. Now in this case there is not a more efficacious remedy than a course of steel waters. But if the patient hath never had a nephritic fit, by reason of the stone being too large to pass the pelvis, these waters must be refrained.

OF THE DYSENTERY, LOOSENESS, AND TENESMUS.

1. THE dysentery or bloody flux begins with a chilness and shaking, succeeded—by a heat of the whole body, and soon after—by gripes, and these—by frequent mucous stools, accompanied with violent pain, and a painful descent as it were of the bowels at every stool, but sometimes an excrementitious stool intervenes ;—the stools are ordinarily streaked with blood, but sometimes not the least blood is mixed with them throughout the whole course of the disease ;—pure blood is sometimes voided in the course of the distemper, and the bowels are affected with an incurable gangrene ;—if the patient be in the prime of life, or has been heated by cardiacs, a high fever rises, and the tongue is covered with a thick white mucus, and sometimes is dry and black ;—a loss of strength and spirits is joined with the fever, and the inward parts of the mouth and throat are affected with aphthæ, especially if the evacuation of the peccant matter hath been injudiciously checked by astringents, without having been first carried off by purgatives. Sometimes the dysentery is unattended with the fever, and begins with gripings, which are succeeded with the other symptoms of this disorder.

2. In a looseness, excrementitious humours are mixed with blood, and there is no ulceration of the bowels.

3. In a tenesmus there is a continual inclination to go to stool, yet nothing is voided but a bloody or purulent mucous matter.

4. Bleed immediately in the arm, and the same evening give an opiate and next morning my common purging potion, and repeat it twice more, allowing a day between each purgation, and exhibit an opiate also after every purge, as soon as the operation is over ; but on the intermediate days of purging give it morning and night.

5. After bleeding and purging once, let the following cardiac be taken throughout the whole course of the disease :

Take of the distilled water of black cherries and strawberries, of each three ounces ; plague water, compound scordium water, and small cinnamon water, of each an ounce ; prepared pearl, one dram and a half ; fine sugar, enough to sweeten the whole ; and half an ounce of rose water, to give it an agreeable taste ; make a julap, of which let the patient take four or five spoonfuls when faint, or at pleasure.

6. The patient's common drink should be milk boiled with thrice the quantity of water, or the white decoction made as follows :

Take of burnt hartshorn, and the crumb of white bread, of each two ounces ; boil them in three pints of water to a quart, and afterwards sweeten the liquor with a sufficient proportion of fine sugar.

7. Or if great weakness should require it,

Take of spring water, a quart ; canary, half a pint ; boil them together a few minutes, and then let it be drank cold for common drink.

8. When the patient hath been purged thrice, the cure depends entirely on exhibiting laudanum twice or thrice a day, only a glyster made of half a pint of milk and an ounce and a half of Venice treacle, should be given now and then ; it being an excellent remedy in all kinds of loosenesses.

9. When the flux amounts to no more than a looseness, omit the bleeding and purging above prescribed, and give the following bolus every morning :

Take of rhubarb half a dram (more or less in proportion to the strength of the patient) diacodium enough to make it into a bolus ; to which add two drops of the oil of cinnamon.

10. In the evening after the operation is over, administer an opiate.

Take of small cinnamon water, an ounce ; liquid laudanum, fourteen drops ; mix them for a draught.

11. The dry gripes are cured by diluting with cold whey, and giving glysters of the same warm, in the same manner as we directed to be done in the cholera morbus, with chicken broth, or posset drink.

12. If this disease proves of long standing, so as to be totally fixed in the rectum, and attended with a continual inclination to

go to stool, a restorative diet must be ordered, and some cordial liquor taken at pleasure to recruit the strength, and the tenesmus will go off spontaneously, as the strength returns.

13. If the dysentery has been ill treated, it sometimes afflicts the patient for some years, in which case repeated bleeding will restore him to his former health.

14. It is to be observed, that in those constitutions of the air which have a less tendency to promote this disease, omitting the evacuations above specified, it may be cured with laudanum only, which is to be repeated morning and night, or even thrice a day, if there be occasion till the symptoms totally vanish.

OF THE BILIOUS COLIC.

1. IT is a violent pain of the bowels, which begins with a fever that lasts a few hours, and terminates in this disease, wherein—the bowels seem to be tied together, or pursed up, and perforated, as it were, with some sharp-pointed instrument, and the pain abates between whiles and soon comes on again ;—in the beginning the pain is not so certainly fixed in one place, nor the vomiting so frequent, and the belly yields with less difficulty to purgatives ;—but the more the pain increases, the more obstinately it fixes in one place ;—the vomiting returns oftener, and the belly is more costive, the disorder at last degenerating into an iliac passion.

2. It is distinguished from a fit of the stone by the following signs :—In the stone the pain is fixed in the kidneys, and extends from thence along the ureter to the testicle, whereas in the colic it shifts, and straitens the belly as if it was bound with a girdle ;—in the colic the pain increases after eating, but in the stone it rather abates ;—the colic is more relieved by vomiting and purging than the stone ;—in the stone the urine is at first clear and thin, but afterwards lets fall a sediment, and at length gravel and stones are voided therewith, whereas in the colic the urine is turbid from the beginning.

3. Bleed plentifully in the arm, and after three or four hours give an opiate : next day exhibit a lenient cathartic, and repeat it a third time, allowing a day between each time of taking it.

4. But if this disorder proceeds from a surfeit of fruit, or any other aliment, the stomach must first be well cleansed by drinking a large quantity of posset drink, and after it is thrown up administering an opiate. Next day recourse must be had to bleeding, and afterwards the process above delivered is to be followed in the manner there prescribed.

5. When this disease, by reason of wrong management, proves of long standing, and brings the patient to the brink of the grave, plague water, aqua mirabilis, or any other cordial he liked best when in health, drank plentifully, gives surprising relief.

OF THE CHOLERA MORBUS.

1. **THIS** disease prevails only in August, and seldom reaches to the first week of September. The disorder occasioned by a surfeit, which happens at any time of the year, curable by the same method, is notwithstanding of a very different kind. The cholera morbus hath the following symptoms:—Immoderate vomiting, and a discharge of vitiated humours downwards, with great pain and difficulty;—a violent pain and swelling of the abdomen and bowels;—heartburn;—thirst;—a quick, small, and irregular pulse;—heat and restlessness;—great nausea;—sweating;—contractions of the limbs;—fainting;—coldness of the extremities, and the like symptoms, which destroy the patient in the space of twenty-four hours.

2. Let a chicken be boiled in about three gallons of water, so that the liquor may scarce taste of flesh. The patient must drink several large draughts of this weak broth warm, or for want of it of posset drink, and at the same time glysters of it are to be given successively. An ounce of the syrup of lettuce, purslain or water-lily, may be now and then added to the draughts and glysters.

3. When the business of cleansing the stomach and bowels is over, which requires three or four hours, an opiate completes the cure.

4. But if the physician be not called till the patient be exhausted by the continuance of the vomiting and purging for several hours, and the extremities are grown cold, he must immediately have recourse to liquid laudanum, and give a large dose of it; for instance, twenty-five drops in an ounce of strong cinnamon water, and repeat the laudanum daily, morning and night, but in a less dose, even after the symptoms are gone off, till the patient recovers.

5. There is a kind of cholera morbus, occasioned by dentition, or a surfeit, which frequently attacks children, and often destroys them.

6. And, as by reason of their tender age children cannot bear to have their stomachs cleansed with large quantities of liquor, and much less the raising a greater disturbance in the humours by purgation, the cure is therefore to be attempted only by laudanum. For this purpose give three, four, or more drops thereof, in proportion to the age of the child, in a spoonful of small beer, or some proper distilled water, and repeat it as there is occasion.

OF THE COLIC OF THE PEOPLE OF POICTIERS.

1. **THIS** is a kind of colic which ordinarily degenerates into a palsy, and a total loss of the motion of the hands and feet.

Riverius describes it under this name. It is a common disorder in the Carribbee islands, where it seizes abundance of persons.

2. This most severe pain is cured by giving balsam of Peru often in a large dose ; for instance, twenty, thirty, or forty drops, in a spoonful of fine sugar, twice or thrice a day ; but the palsy yields not to this remedy.

OF THE ILIAC PASSION.

1. IN this disorder the peristaltic motion of the bowels is inverted ;—cathartics and glysters soon become emetic, and the excrements are vomited up.

2. Take away nine or ten ounces of blood from the right arm, and a few hours afterwards give the following powder :

Take of the resin of scammony, or, for want of it, of jalap, twelve grains ; calomel, a scruple ; mix them together for a powder, to be taken in a spoonful of milk, drinking a spoonful or two of milk after it.

3. Or if pills are more agreeable,

Take of the pills of two principal ingredients, half a dram ; calomel, a scruple ; balsam of Peru enough to make them into four pills, to be taken in a spoonful of syrup of violets.

4. If these pills be thrown up, exhibit twenty-five drops of laudanum immediately in a spoonful of strong cinnamon water ; and the vomiting and pain being abated hereby, repeat the purgative ; but if the vomiting and pain return, after the virtue of the opiate is gone off, and the purgative still lodges in the body, we must return to the opiate again, and repeat it every fourth or sixth hour, till the bowels be made perfectly easy, when the purgative will operate in its usual manner.

5. It is also proper to give a strong purging glyster an hour or two after bleeding ; as for instance, the smoke of tobacco forced up through a bladder into the bowels by an inverted pipe, and this may be repeated in a few hours, unless a passage downwards be sooner opened.

6. As soon as the purgative hath done working, exhibit the following draught :

Take of strong cinnamon water, an ounce ; liquid laudanum, twenty-five drops ; mix them together for a draught.

This draught must be repeated twice or thrice, or oftener in a day, till the vomiting and pain are quite gone off ; and in order to

complete the cure, it is proper, even after this, to give the same opiate in a less dose every night at bed time for some time.

OF THE IMMEDIATE FLUX OF THE MENSES.

1. THE menstrual discharge in its natural state is esteemed to fill the shell of a goose's egg: it is known to be immoderate by—the difficulty of bearing it;—loss of strength and appetite;—cachexy;—sallow complexion, and—swelling of the feet.

2. Take away eight ounces of blood from the arm, and next morning give my common purging potion, and repeat it every other day to a third time, exhibiting a dose of syrup of white poppies at night after the operation.

3. On the intermediate days of purging, let the following remedies be used:

Take of the conserve of dried roses, two ounces; troches of Lemnian earth, a dram and a half; pomegranate bark, red coral prepared, and Armenian bole, of each two scruples; blood stone and dragon's blood, each a scruple; syrup of quinces, a sufficient proportion to make the whole into an electuary; of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, drinking six spoonfuls of the following julap upon it:

Take of the distilled waters of oak buds and plantain, each three ounces; small cinnamon water and syrup of roses, each an ounce; spirit of vitriol, as much as will make it agreeably tart.

Take of the leaves of plantain and nettles, each a sufficient quantity; bruise them well together in a marble mortar, and press out the juice, and lastly clarify it: let four spoonfuls of it be taken often, or at pleasure.

4. After the first purge apply the following plaister to the region of the loins:

Take of the red lead plaister and rupture plaister, each equal parts; melt them down together, and spread the mass upon leather.

OF THE HYSTERIC COLIC.

1. IT is a kind of hysteric complaint, or rather a remarkable and common symptom of the hysteric passion, accompanied with a very violent pain of the parts near the scrobiculum cordis, and likewise with a discharge of green humours upwards.

2. The patient must drink a large quantity of posset drink, for instance, a gallon and a half, and throw it up again, that the abundance of vitiated humours lodged in the stomach may not hinder the effect of the quieting medicine; and after the affair of vomiting is over, give twenty-five drops of liquid laudanum, in an ounce of strong cinnamon water, plague water, or any other suitable vehicle.

3. With respect to the use of the opiate, let it be observed, that it must be repeated till the symptoms go off entirely, allowing a proper interval between every dose; so that we may conjecture what effect the last hath had before we exhibit another.

4. If the patient be of a sanguine constitution, or hath been a little afflicted with this disorder formerly, and not weakened thereby, bleeding in the arm should precede the vomit prescribed. The *clavus hystericus* yields likewise to the same treatment.

5. But if the hysteric colic hath continued long, and attacked by fits, it is proper in this case to use the following medicines in the intervals of the fits:

Take of zedoary in fine powder, a dram; syrup of candied citron, enough to make it into a bolus; to be taken morning and night for thirty days, with the following infusion after it:

Take of zedoary thinly sliced, half an ounce; canary, four ounces; digest them together for twelve hours, without heat, then strain off the tincture.

Or balsam of Peru may be used, as is directed in the colic of the natives of Poictiers.

6. It must be carefully noted, that what is here said of the hysteric colic, is to be applied to the hypochondriac colic likewise: the nature of both these disorders should seem to require a trial to be made of several medicines, till at length we hit upon one, in a manner naturally curative of this disease; though in general, steel is most serviceable here.

7. The hysteric colic, both in hysteric and hypochondriac subjects, often terminates in a jaundice, which goes off by degrees spontaneously; but if it continues long, let the following apozem be exhibited:

Take of the roots of madder and turmeric, each an ounce; the roots, together with the leaves of the greater celandine, and the tops of the lesser centaury, each a handful; boil them together in equal quantities of Rhenish wine and spring water, to a quart; and to the strained liquor add two ounces of the syrup of the five opening roots: mix them together for an

apozem, of which let half a pint be taken warm every morning and night, till the cure be finished.

OF THAT KIND OF JAUNDICE WHICH DOES NOT SUCCEED THE COLIC.

1. THIS disorder manifests itself by the following signs ;—a yellowness of the whole body, most visible in the whites of the eyes ;—a seeming yellowness of all objects ;—itching ;—heaviness ;—lassitude ;—bitterness of tongue ;—bilious vomiting sometimes ;—a hiccup ;—white excrements ;—the urine of a saffron colour, and staining linen dipped therein yellow.

2. Exhibit my common purging draught, and then let the patient begin the following course of medicine, and during the continuance thereof, take the purging draught every fourth day.

Take of the conserve of Roman wormwood and orange peel, each an ounce ; candied angelica and nutmegs, the compound powder of wake robin, and steel prepared with vinegar, each half an ounce ; extract of the lesser centaury and gentian root, and cream of tartar, of each two drams ; saffron in powder, half a dram ; syrup of the five opening roots, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, and at five in the afternoon, drinking after the morning dose two quarts of the purging mineral waters, and after the dose in the afternoon, half a pint of the apozem set down under the article of the hysteric colic.

Or instead of this electuary the patient may take steel pills.

3. But if the signs of a dropsy appear, the apozem must be taken morning and night.

4. If, notwithstanding the long continuance of this process, the disease yields little or not at all, the patient should be sent to drink the steel waters at the well head.

OF PREVENTING MISCARRIAGE.

FOR this purpose the same medicines are to be prescribed as in the immoderate flux of the menses, only omitting purgation, and the juices of the herbs.

OF THE IMMODERATE FLUX OF THE LOCHIA.

1. To constitute a natural flux of the lochia three things are required : A copious discharge of pure blood for the first three

days ; then of watery blood (like water in which raw flesh has been washed) for about four days more ; afterwards a viscous, mucilaginous matter, mixed with little or no blood, for the five or six immediately following days, and thence to the end of the month.

2. An immoderate flux of the lochia is known by a loss of strength ;—fainting ;—the coming away of clotted blood ;—loss of appetite ;—pain in the hypochondria ;—a swelling of the abdomen ;—a weak and quick pulse ;—dimness of sight ;—noise in the ears, and convulsions.

3. An incrassating diet is to be directed, along with the following binding decoction :

Take of plantain water and red wine, each a pint ; boil them together to the consumption of a third part, and then sweeten it with fine sugar : let half a pint of it be taken twice or thrice a day.

4. In the mean time exhibit some weak hysteric julap, and let the following composition, or a small vial of spirit of sal ammoniac, be often held to the nose :

Take of galbanum and asafœtida, each two drams ; castor, a dram and a half ; volatile salt of amber, half a dram : mix them together for a nodule.

OF THE SUPPRESSION OF THE LOCHIA.

1. THIS disorder is accompanied with a swelling of the belly ;—a dull pain of the abdomen, loins, and groin ;—redness of the face ;—difficult respiration ;—a wild look ;—shivering ;—an acute fever ;—cold sweats ;—fainting ;—pulsation and heat in the womb ;—a palsy of the lower parts, and sometimes an epilepsy.

2. The patient should be put to bed forthwith and an hysteric plaister applied to her navel, and immediately begin to take the following medicines :

Take of the conserves of Roman wormwood and rue, each an ounce ; the troches of myrrh, two drams ; castor, saffron, volatile sal ammoniac, and asafœtida, of each half a dram ; mix them all together, and make an electuary thereof with a sufficient quantity of the syrup of the five opening roots ; let the patient take the quantity of a nutmeg of it every four hours, drinking after it four or five spoonfuls of the following julap :

Take of the distilled water of rue, four ounces ; compound briony water, two ounces ; fine sugar enough to sweeten it, and make a julap.

Or let her take a scruple of the troches of myrrh every four hours.

3. If after having taken these medicines in the quantity here ordered, the lochia still continue suppressed, exhibit, only once, fourteen drops of liquid laudanum, in a small quantity of compound briony water, or a grain and half of solid laudanum, and half a scruple of asafœtida, made up into two pills.

4. And these not availing, give only a single glyster of milk and sugar.

OF THE DROPSY.

1. ONE of the first signs of the dropsy is, the pitting of the leg when the finger is pressed against it, which is most apparent at night, but disappears in the morning, especially if the swelling of the legs be accompanied with a difficulty of breathing; though pregnant women, and those that labour under a suppression of the menses, and men that are suddenly freed from an inveterate asthma, often have swellings of a like kind. When the feet, legs, and thighs have received as much water as they can hold, it flows into the abdomen, and by degrees stretches it as tight as its coat will bear, till, falling at length upon the vital and noble parts, the patient is destroyed by a kind of deluge. In the same degree that the swelling of the parts affected increases, the other parts waste away, and at the same time a difficulty of breathing, the making little urine, and great thirst, accompany the distemper. The dropsy chiefly attacks men in years, and women after they are past bearing children.

2. The curative indications are, 1. to evacuate the water, and 2. to strengthen the blood, so as to prevent a fresh drain of water into the parts affected.

Take of white wine, four ounces; jalap in fine powder, a dram; powdered ginger, half a scruple; syrup of buckthorn, one ounce; mix them all together for a draught, to be taken early in the morning, and repeated every day, or every other day, as the strength will bear, till the swelling of the parts affected vanishes.

Or, Take of tamarinds, half an ounce; the leaves of sena, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of spring water, so as to leave three ounces of strained liquor, in which dissolve manna, and solutive syrup of roses, of each an ounce; syrup of buckthorn, half an ounce; and of the electuary of the juice of roses, three drams; mix them together for a draught, to be taken as the former.

- Or, Take of the pills of two principal ingredients, a scruple ; clat-
terium, three grains ; make them into three pills, to be taken
early in the morning, and repeated as there is occasion.
- Or, Take of gamboge, fifteen grains ; white wine and the distilled
water of succory, of each an ounce and half ; syrup of buck-
thorn, half an ounce ; mix them together for a draught, to be
taken as above directed.
- Or, Take of the inner bark of elder, three handfuls ; boil it in a
quart of milk and water equally mixed, to a pint, then strain
it off ; half of it to be drank every morning and the remainder
at night, till the patient recovers.

But this medicine is serviceable only in such subjects as are easi-
ly purged.

3. With respect to purging in this disease, the three following
cautions are to be observed :

4. 1. It must be inquired, whether the patient is easy or hard
to purge ; because in the former case an ounce of syrup of buck-
thorn, given by itself, will evacuate a sufficient quantity of water ;
whereas in the latter case, the purgatives above set down, though
of the strongest kind, will hardly answer the end.

5. 2. All mild purgatives do more mischief than good, for
which reason rough purging is preferable to weak.

6. 3. The water should be carried off as speedily as the strength
will permit, lest by purging only at distant intervals we allow
time for a fresh collection thereof.

7. But there are some cases, where all kinds of purgatives
must be forborn ; thus, for instance, in weak habits and hysteric
women, the evacuation of the water is only to be attempted by
diuretics, the most efficacious of which are prepared from lixi-
vial salts.

Take of broom ashes, a pound ; digest them without heat in
two quarts of Rhenish wine ; and take three ounces of the
filtered liquor every morning, and at five in the afternoon,
till the water be carried off.

8. When the water is carried off, heating and strengthening
medicines are to be used.

Take of horseradish root, the leaves of common wormwood,
scurvy grass and sage, and the tops of the lesser centaury
and broom, of each a sufficient quantity ; infuse them in
strong beer, and use it for common drink.

This medicated beer does sometimes cure a recent dropsy with-

out the assistance of purgatives ; but instead of it the following medicines may be taken :

Take of the conserves of Roman wormwood and scurvy grass, each one ounce ; the extract of gentian, common wormwood and the lesser centaury, of each three drams ; syrup of citron peel, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, at five in the afternoon, and at night, drinking after it four ounces of the following infusion :

Take of the gentian root, the tops of broom, the lesser centaury, and common wormwood, each an handful ; the seeds of fennel and parsley, each two drams ; slice and bruise the ingredients and pour upon them two quarts of Rhenish wine, and let them stand together to infuse without heat, and the liquor be strained off only when wanted.

9. It is to be noted, that purgatives must absolutely be forborn during the use of strengthening medicines, and likewise whilst we exhibit lixivial salts, with which, however, strengthening medicines may be commodiously given.

Take of horseradish roots, three ounces ; the leaves of scurvy grass, common wormwood and sage, and the tops of the lesser centaury and broom, of each three handfuls ; three Seville oranges ; infuse all together in six gallons of ale made without hops, whilst it is working, and let it be used for common drink.

OF A GONORRHŒA VIRULENTA, OR VENEREAL RUNNING.

1. THIS disorder begins with an uncommon pain in the parts of generation, and a kind of rotation of the testicles ; and in such as have not been circumcised, a spot not unlike the measles appears upon the glans, soon after which a fluid resembling semen flows therefrom, which changes every day both in colour and consistence, and at length turns yellow, but paler than the yolk of an egg ; and when this disease is more virulent, and degenerated into the pox, this matter becomes green, and is mixed with a watery humour, streaked with blood. The pustule upon the glans terminates at length in an ulcer, resembling the aphthæ in the mouths of children, and spreads and eats deeper every day, and the lips grow callous. Those that have undergone circumcision, or have the glans bare, have no ulcer in this part, but only the gonorrhœa. The running is soon succeeded by a pain in the penis at every erection, as if it were violently squeezed with the hand, which symptom happens chiefly in the night when the patient

grows warm in bed. The penis is bent by the contraction of the frenum, and with these symptoms are joined a heat of urine, scarce felt at the time of making, but immediately afterwards the patient is sensible of a burning heat all along the duct of the urethra, and especially at its termination in the glans. Sometimes caruncles prevent the exclusion of the urine, and sometimes a pain and inflammation of the scrotum succeed.

2. Let four of the following pills be taken every morning till the heat of urine be much abated, and the running grown considerably paler, or whitish: then every other day for a fortnight, and at last twice a week till the running ceases:

Take of the greater pill called cochia, three drams; the extract of rudius, a dram; resin of jalap, and scammony, each half a dram; opobalsamum, enough to make them into a mass; every dram whereof is to be made into six pills.

3. Those that are hard to purge may take my purging potion now and then between the pills, to which may be added syrup of buckthorn, and the electuary of the juice of roses, of each two drams; or if the cure goes on slowly, eight grains of turbith mineral may be given twice or thrice, interposing four days between each dose; or, instead of it, the following:

Take of the pills of two principal ingredients, half a dram; sweet mercury a scruple; opobalsamum, enough to make them into four pills, to be taken early in the morning.

4. If the patient has an aversion to this method of purgation, after having taken the pills above prescribed for three mornings running, let the following glyster be given every morning, and at five in the afternoon; only once or twice a week administer a purgative, and omit the glyster:

Take of the electuary of the juice of roses, six drams; Venice turpentine, dissolved with enough yolk of egg, half an ounce; dissolve them in a pint of barley water, and add two ounces of syrup of violets to the strained liquor: mix the whole for a glyster.

5. Exhibit twenty-five drops of opobalsamum, or balm of Mecca, dropt upon a lump of fine sugar, every night; or, instead of it, the quantity of a hazel nut of Cyprus turpentine. His common drink should be milk boiled with thrice as much water, and small beer at meals.

6. Or you may proceed in this manner:

Take of the pill of two principal ingredients, half a dram ; opobalsamum, three drops ; make them into three pills, to be taken at four in the morning, sleeping upon them, and let them be repeated every other, or every third day.

7. On the intermediate days of purging, give the glyster above prescribed, in the morning, and at five in the afternoon.

8. Whatever method of cure be used, the patient must be blooded once or twice towards the middle of the course ; and a cooling or thickening diet ordered, along with medicines of the same kind ; as milk and water, emulsions of the four greater cold seeds, and the like.

9. If the penis be swelled,

Take of the roots of marshmallows and white lilies, each an ounce and half ; the leaves of mallows, mullein, elder, and henbane, and the flowers of camomile and melilot, of each an handful ; the seeds of flax and fenugreek, each half an ounce ; boil them together in a sufficient quantity of spring water for a fomentation, to be applied to the part affected for the space of an hour, twice or thrice a day.

After fomenting the part, let it be anointed with fresh linseed oil, and then apply the mucilage plaister, spread on leather, to the swelled lips of the prepuce.

10. But if the lips of the prepuce, or glans, be ulcerated, have recourse to the following liniment :

Take of the ointment basilicon, six drams ; the ointment of tobacco, two drams ; red precipitate (washed in rose water, and levigated) half a dram ; mix them together for a liniment, to be applied upon lint to the ulcer, after using the fomentation above set down.

11. If the scrotum be swelled, take away blood from the arm immediately, and apply the above-mentioned fomentation twice a day to the part affected, adding a spoonful or two of spirit of wine to it, every time it is used : or instead of it, use a cataplasm made of oxycrate and bean meal.

12. In the mean time the purgatives and coolers, above enumerated, must be given inwardly.

OF THE VENEREAL DISEASE.

1. WHEN the blood is tainted by the long continuance of a gonorrhœa, or the unadvised use of astringents, the true pox appears, which is attended with buboes in the groin ;—pains in the

head, and limbs between the joints, which chiefly come in the night, after the patient is warm in bed ;—yellow scabs also, and scurf in different parts of the body, which resemble an honey comb, and the more they spread, the less pain the patient feels ;—exostoses in the cranium, legs, and arms ;—inflammation and caries of the bones ;—phagedenic ulcers in various parts of the body, which generally seize the throat first, and eat by degrees through the palate, to the cartilage or bridge of the nose, which they soon consume, so that the nose, for want of its support, falls flat,—the ulcers, caries, and pains increasing every day, the limbs rot away piecemeal, and the mangled carcase, being at length grown hateful to the living, is buried in the earth :

Take of hog's lard, two ounces ; quicksilver, an ounce ; mix them together according to the rules of art, for a liniment, to be divided into three equal parts, with one of which the patient is to anoint his arms, thighs, and legs, with his own hand, for three nights running.

2. If the salivation rises not in three days after the last unction, eight grains of turbith mineral may be given in a little conserve of red roses, or in weak habits a scruple of sweet mercury. If the salivation abates before the symptoms are quite gone off, it must be increased by exhibiting now and then a dose of sweet mercury occasionally.

3. The salivation should be so regulated, that the patient may spit about two quarts in twenty-four hours.

4. If it rises too high, and is accompanied with great inflammation, and other symptoms of a like kind, it must be lowered to a proper degree by purgatives.

5. As soon as the symptoms are gone off, the patient's linen should be changed for what has been worn since it was washed.

6. If a looseness succeeds, as it generally does soon after the salivation rises, it must be stopt by administering laudanum ; increasing and repeating the dose, till it hath produced the desired effect.

7. If the mouth be ulcerated, it must be gargarized or washed with rose water, milk and water, or the following gargarism :

Take of the roots of marshmallows, and pearl barley, of each an ounce ; quince-seeds, half an ounce ; boil them together in enough spring water to a quart, for a gargarism, to be frequently used.

8. The same regimen and diet are to be ordered in a salivation as are used in a course of purging ; only the patient may live upon posset drink, water gruel, barley gruel, and warm small beer, for a few days in the beginning of the course.

9. The course being duly finished, though the symptoms should seem gone off, and the distemper consequently cured, yet, in order to prevent a relapse, the patient should take a scruple of sweet mercury once a week, for a month, or six weeks; though he appears to be perfectly well, and goes abroad.

OF THE FLUOR ALBUS.

1. THE flux in this disorder is sometimes white, sometimes pale, yellow, green, or blackish, sometimes sharp and corroding, and sometimes of a pungent ill smell. It is accompanied with a paleness of the face, a pain in the back bone, loss of appetite, and a swelling of the eyes and legs. A piece of linen dipt in the discharge, and dried, shews the nature of it.

2. Take away eight ounces of blood from the arm, and next morning at four o'clock let the following pills be taken, sleeping upon them; and repeat them twice more, allowing a day or two between every dose, according to the strength of the patient:

Take of the greater pil. cochiaë, two scruples; castor, two grains; balsam of Peru, three drops; make them into four pills.

Take of the distilled water of rue, four ounces; compound briony water, two ounces; fine sugar enough to sweeten them, and make a julap, of which let the patient take three or four spoonfuls, whenever she is faint.

Take of Venice treacle, an ounce and half; conserve of orange peel, an ounce; diacodium, half an ounce; candied ginger and nutmeg, each three drams; compound powder of crab claws, a dram and half; the outward bark of pomegranate, Spanish angelica root, red coral prepared, and the troches of Lemnian earth, of each a dram; Armenian bole, two scruples; gum arabic, half a dram; syrup of dried roses, a sufficient quantity to make them into an electuary; of which let the patient take the quantity of a large nutmeg, every morning, at five in the afternoon, and at bed time, for the space of a month, drinking after it six spoonfuls of the following infusion:

Take of the roots of elecampane, masterwort, angelica, and sweet cane, each half an ounce; the leaves of Roman wormwood, white horehound, and lesser centaury, common calamint, and dried sage, of each an handful; juniper berries, an ounce; slice and bruise these ingredients, then pour upon them two quarts of canary, and let them stand together to infuse without heat, and strain the liquor off as it is used.

3. The patient ought to live upon food of easy digestion, forbear all kinds of greens and fruit, and drink canary at meals.

OF A DIABETES.

1. In this distemper the juices carried into the blood, being crude and indigested, pass off by urine, which by degrees impairs the strength, and wastes the body; the substance of which is in a manner drained through this strainer: it is accompanied also with thirst, heat of the viscera, a swelling of the loins and hips, and a frequent sputation of a frothy saliva.

2. The same medicines are to be prescribed in this case as in the fluor albus, except bleeding and purging.

OF THE PILES.

1. THEY occasion violent pain in going to stool, and the outside of the excrements appears streaked with blood: they are small tumours like warts, which sometimes lie concealed in the sphincter, and sometimes appear outwardly in the anus.

2. Take away ten ounces of blood from the right arm.

Take of melon and pumpkin seeds, each half an ounce; white poppy seeds, two drams; five blanched sweet almonds; beat them together in a marble mortar, and pour on, by degrees, a pint and half of barley water; to the strained liquor add two drams of rose water, and enough sugar to sweeten it. Let three ounces of this emulsion be taken often.

Take of the flower of sulphur, liquorice powder, and sage reduced to powder, of each a dram; Locatellus's balsam, enough to bring them into a mass for pills; and make six pills of a dram, three of which must be taken three times a day, drinking after them six spoonfuls of the emulsion above prescribed.

3. Apply a piece of linen dipt in the following mixture to the part affected, or if the tumour be internal, throw up three spoonfuls of it into the anus with a syringe:

Take of the distilled water of frog spawn, four ounces; dissolve therein two drams of litharge, and a scruple of opium, and make a mixture.

4. The patient should use milk, boiled with thrice as much water, for his common drink, forbear flesh, and take a dose of syrup of white poppies, every night.

OF THE IMMODERATE BLEEDING OF THE PILES.

1. THIS disorder manifests itself, by the loss of strength;—the large quantity of blood voided, and the long continuance of

the flux ;—the ill colour of the skin, which looks yellowish, as in the jaundice ; and these symptoms are succeeded by—a cachexy ; and—afterwards a dropsy.

2. The same medicines may be advantageously used in this case as in the immoderate flux of the menses, purging only excepted.

OF THE EPILEPSY, OR FALLING SICKNESS IN CHILDREN.

1. CHILDREN are seized with this disorder, either in the first month after a looseness, in which case a few grains of diacodium, dissolved in the distilled water of saxifrage, or the mother's milk, is an excellent remedy : or it attacks them about the time of dentition, from the seventh to the tenth month, and is attended with a cough, or, which is much worse, a vomiting and looseness, with green stools, as is usual in hysteric cases.

2. Sometimes the fit comes suddenly, distorting the mouth and eyes, causing the face to turn black, and convulsing the limbs. Sometimes the fit is known to be coming by an involuntary contraction of the finger into the palm of the hand, and an uncommon fixedness of the eyes. The fits are sometimes long, and sometimes short, and sometimes return at set times, and at others keep no certain period ; but upon the approach of death they follow one another very quick. Children are subject to a drowsiness in the intervals, till they are roused by a fresh fit.

3. Apply a blistering plaister immediately to the neck.

Take of compound piony water, three drams ; liquid laudanum, a drop or two, or more drops, according to the age of the child ; syrup of piony, a dram ; mix them together for a draught to be taken directly.

Take of the distilled water of rue, three ounces ; compound piony water, and compound briony water, each an ounce ; syrup of clove-july flowers, half an ounce ; mix them together for a julap, a spoonful of which is to be given the child every hour, if the draught above prescribed does not remove the fit.

OF THE RICKETS.

1. THE rickets are attended with a laxness, flaccidity, weakness, and unequal nutrition of the parts of the body : thus,—the head is over large ;—the face too full and florid ;—the muscles of the neck wear away ;—knotty excrescencies appear in the joints, especially in the wrists, but less in the ancles ;—the tops of the ribs are swelled ;—the bones grow crooked, especially those of the legs, the arms, neck, and sometimes also the shoulders and

thighs ;—the teeth come slowly and painfully, and grow loose, black, and fall out by pieces ;—the thorax is strait, and the sternum rises in a point ;—the abdomen and hypochondria swell ;—a cough, and disorders of the lungs succeed ;—and the patient cannot sometimes lie on the right side, and sometimes not on the left.

Take of the leaves of common wormwood, the lesser centaury, white horehound, germander, scordium, common calamint, feverfew, meadow saxifrage, St. John's wort, golden rod, wild thyme, mint, sage, rue, holy thistle, penny royal, southernwood, camomile, tansey, and lily of the valley, all fresh gathered, and cut small, of each one handful ; hog's lard, four pounds ; sheep's suet, two pounds ; claret, a quart ; infuse them together in an earthen vessel upon hot ashes for sixteen hours, then boil them till the aqueous moisture is exhaled, and lastly, press out the ointment, with which let the abdomen, hypochondria, and other affected parts, be anointed for the space of thirty or forty days, or till the child gets well.

Take of each of the ingredients above prescribed, two handfuls ; infuse them without heat in four gallons of beer, brewed without hops, and let it be used for common drink.

2. In swellings of the belly in children, occasioned by immoderate evacuations, the blood and the viscera ought to be strengthened with strengthening herbs, as in the true rickets ; but the arm-pits only, and not the limbs, must be anointed with the liniment above prescribed.

OF FEVERS CAUSED BY DENTITION.

GIVE two, three, or four drops of hartshorn, according to the age of the child, in a spoonful or two of black cherry water, or some other suitable vehicle, every four hours, for five or six times.

OF A HECTIC FEVER IN CHILDREN.

1. IN this disorder, ^{*}children languish without much heat, lose their appetite, and the body and limbs waste away.

2. Infuse two drams of rhubarb, sliced thin, in a quart of small beer, and let the child use it for common drink ; and this being finished, pour another quart of small beer upon the same rhubarb, and so a third time. But if it purges too much at first, after the child has drank a pint of it, add another pint of small beer to the remainder.

OF THE CONVULSIVE, OR HOOPING COUGH IN CHILDREN.

THIS otherwise obstinate, and almost incurable disorder, yields to bleeding and repeated purging only ; though none but lenient purgatives are proper here, and must be exhibited by spoonfuls, suiting the dose to the age of the child.

OF THE BLEEDING AT THE NOSE.

1. THIS complaint is accompanied with pain and heat in the fore part of the head.
2. Bleed often in the arm, and order a cooling and incrassating diet, along with a cooling and thickening julap, and a cooling emulsion.
3. Give a cooling glyster every day, and an opiate of syrup of white poppies every night ; and exhibit my common purging potion once or twice a week.
4. Apply a piece of linen four times doubled, dipt in a solution of sal prunella, in cold water, and gently squeezed out, to the nape and both sides of the neck, often in a day.
5. And after due evacuations, let the following liquor be used :

Take of Hungarian vitriol, and roch alum, each an ounce ; the phlegm of vitriol, half a pint ; boil them together till the salts are dissolved ; filter the liquor when it is cold, and separate it from the crystals that shoot between whites ; lastly, add a twelfth part of oil of vitriol to the remaining liquor.

Or, which is better,

Take of plantain water, three ounces ; Armenian bole, very finely powdered, half an ounce ; mix them well together ; put up a tent of lint, dipt in the mixture, into the bleeding nostril, and keep it there two days.

6. If these applications avail not, make a solution of Roman vitriol in common water ; dip a tent therein, and thrust it up the nose : compresses dipt in this liquor, and applied to the part affected, stop any outward bleeding.

OF THE CHLOROSIS, OR GREEN SICKNESS.

1. THIS indisposition is attended with—a bad colour of the face and whole body ;—a swelling of the face, eyelids and ancles ;—heaviness of the whole body ;—a tension and lassitude of the legs and feet ;—difficult respiration ;—palpitation of the heart ;—pain in the head ;—feverish pulse ;—drowsiness ;—an unnatural

longing for such things as are noxious, and unfit for food ; and—a suppression of the menstrual discharge.

2. Let the steel pills, or powder, ordered in the hysteric passion, be taken in a dose adapted to the age of the patient, with a few spoonfuls of wine in it, or of the strengthening infusion made with the roots of angelica, there set down. And if the patient be not very weak, give her a purge or two, before putting her into this course of medicine.

OF THE SUPPRESSION OF THE MENSES.

1. THIS disorder is accompanied with—a loathing of food ;—bad colour ;—universal indolence ;—pain in the fore part of the head, abdomen, loins, and legs ; and—a swelling of the feet.

2. The same medicines are to be prescribed in this case as in the hysteric passion ; but if it yields not to them, the following process must be directed :

3. Exhibit five spoonfuls of the hysteric julap without castor, with twelve drops of the spirit of hartshorn, every morning, and at four in the afternoon, and a scruple of the troches of myrrh, made into a bolus, or pills, with a syrup of mugwort, every night at bed time.

OF VOMITING, OR SPITTING OF BLOOD.

1. A SPITTING of blood is accompanied with pain and heat in the breast, and some kind of debility.

2. Take away ten ounces of blood from the right arm, and next morning give my common purging potion, and the same night an opiate.

Take of the black cherry water, three ounces ; syrup of white poppies, an ounce : mix them together for a draught.

3. Then let the patient begin to take the following medicines :

Take of Armenian bole, an ounce ; comfrey root, in powder, two drams ; sealed earth, blood stone, and dragon's blood, of each a dram ; fine sugar, the weight of all the other ingredients ; mix them together for a powder ; a dram of which is to be taken every morning, at five in the afternoon, and at night, drinking four ounces of the following apozem upon it : Take of the leaves of plantain, the bramble, and yarrow, each a handful ; boil them in a sufficient proportion of water to a pint and half ; and dissolve two ounces of the syrup of comfrey in the strained liquor ; mix them together for an apozem.

Or, instead of it, let the patient take six spoonfuls of the following tincture :

Take of the leaves of red roses, and the inner bark of oak, each half an ounce ; the seeds of plantain, a little bruised, three drams ; spring water, a quart ; spirit of vitriol, enough to give it a grateful acidity ; infuse them together in a close vessel, with a gentle heat, for four hours ; to the strained liquor add three ounces of small cinnamon water, and fine sugar enough to give the tincture an agreeable taste.

4. If he has an aversion to powders, he may use the electuary prescribed in the immoderate flux of the menses.

5. Let a glyster be given every day, and a dose of syrup of poppies every night at bed time.

6. Bleeding is also to be repeated again, as there is occasion, a first, second, or third time, at convenient intervals, and the purging potion given once more, if necessary.

7. A cooling and thickening diet is to be used.

OF THE PUNCTURE OF A TENDON.

In this case a watery humour, or ichor, flows continually from the orifice of the opened veins :

Take of the roots of the white lily, four ounces ; bruise and boil them till they grow soft in a quart of milk ; then add oatmeal and linseed flour, of each three ounces ; boil them to the consistence of a cataplasm in the milk wherein the white lily roots have been boiled ; and apply it to the parts affected morning and night.

OF BURNS.

BATHE the part affected with a piece of linen dipt in spirit of wine till the pain ceases ; and renew the application three or four times a day.

OF THE COMMON MADNESS.

1. **THIS** disorder proceeds from the over richness and spirituousness of the blood. But there is also another kind of madness, that succeeds an intermittent of long standing ; and at length degenerates into idiotism, which arises from the depressed state of the blood, occasioned by its long fermentation. In this case, therefore, strong cordials are to be prescribed, such as Venice treacle, the electuary of the egg, the Countess of Kent's powder, Sir Walter Raleigh's cordial, and the like, in plague water, or any similar vehicle, along with a restorative diet.

2. But in the disorder under consideration, take away eight or nine ounces of blood from the arm in young subjects, and repeat the operation twice or thrice, at the distance of three days between each bleeding, and then bleed once in the jugular. Afterwards the cure depends wholly upon the use of the following purgative, which must be administered every third or fourth day, till the patient recovers: observing in the mean time to omit it for a week or a fortnight, after the patient has been purged eight or ten times:

Take of the roots of white briony in powder, a dram; milk, four ounces; mix them together for a draught.

Or, Take of the roots of white briony, half an ounce, or six drams; let them stand a night in infusion, and dissolve an ounce of syrup of violets in the strained liquor: mix the whole for a draught.

Or, Take of gamboge, fourteen grains; black cherry water, three ounces; syrup of clove-july flowers, half an ounce: mix them together for a draught.

OF BRUISES.

1. TAKE away ten ounces of blood from the arm of the affected side, and next morning exhibit the common purging potion, and then repeat bleeding and purging by turns in this manner, till the cure is completed. In the mean time, if the inward parts be hurt, let the following medicine be used:

Take of the common pectoral decoction, a pint and half; syrup of violets and maiden hair, of each two ounces: mix them together for an apozem, half a pint of which is to be taken thrice a day.

2. A spoonful of fresh-drawn oil of sweet almonds may be given often.

Take of the oil of sweet almonds, ointment of marshmallows, and pomatum, each an ounce; mix them together for a liniment to anoint the affected part with, morning and night, covering it with a cabbage leaf.

OF THE SCURF, OR FURFURACEOUS ERUPTIONS OF THE HEAD.

1. EXHIBIT the common purging potion, and afterwards anoint the whole head with the following liniment, rubbing it in well, and then cover it with a bladder:

Take of oil of bitter almonds, and bay leaves, and the ashes of southernwood, of each an ounce ; mix them well together for a liniment.

2. The head should be shaved in the first place, and then the scales rubbed off every morning by degrees, as they grow loose.

OF THE BITE OF A MAD DOG.

IN forty days, or more, after the bite, the signs of melancholy appear, a fever, thirst, hydrophobia, or dread of water ; and at length convulsions of the extremities :

Take of highly rectified spirit of wine, four ounces ; Venice treacle, an ounce ; make a mixture of them, with which let the wounded part be bathed thrice a day, covering it with a piece of linen dipt in the same.

OF AN ULCER OF THE BLADDER.

1. The symptoms in this disease are voiding of fetid matter, or blood, and sometimes membranous pellicles like furfuraceous scales, along with the urine ;—a continual dysuria and pain in the urinary passages.

2. In an ulcer of the kidneys, fleshy excrescencies of a different thickness are voided with the urine ;—the dysuria and pain come by intervals ;—the matter also that comes from the kidneys is more copious, and likewise white and thin, and not fetid ;—the urine looks like milk when it is first made, but after standing a considerable time, the matter separates from it, and falls to the bottom.

Take of the plaister called the flower of ointments, three drams ; make it into nine pills, three of which are to be taken in the morning, at four in the afternoon, and at bed time, with six spoonfuls of the following distilled water after them :

Take of the roots of fennel, comfrey, birthwort, and avens, of each three ounces ; the leaves of agrimony, St. John's wort, sanicle, and plantain, of each six handfuls ; the ingredients being sliced and bruised, pour thereon white wine and milk, of each two quarts ; and afterwards draw off only two quarts for use.

Take of comfrey root, and gum arabic, each an ounce ; fine sugar, two ounces ; make them into a powder, a spoonful of which must be taken twice a day.

OF AN OBSTINATE ASTHMA IN SANGUINE CONSTITUTIONS.

1. THERE are three kinds of this disorder: 1. a dyspnœa, which is a dense, quick, and difficult respiration, without a ster-tor or rattling, and proceeds from a stuffing of the lungs; 2. an asthma, which is a quick and difficult respiration, accompanied with violent motions of the diaphragm, intercostal and abdominal muscles, and a rattling in the throat. In the former species the lungs themselves, and in the latter the bronchia are stuffed; 3. an orthopnœa, which is the greatest difficulty of breathing, insomuch that the patient cannot breathe but in an erect posture, and is attended with violent motions of the muscles of the breast and shoulders.

2. Take away ten ounces of blood from the right arm, and next day give the common purging potion, which must be repeated twice more, once every third day.

3. On the intermediate days of purging let the following medicines be used:

Take of the seeds of anise, finely powdered, two drams; Locatellus's balsam, enough to bring it into a mass for pills, and make six pills of a dram, three of which are to be taken every morning, and at five in the afternoon, drinking four ounces of the bitter decoction without purgatives, warm, after them.

4. If the disorder does not go off, let the whole process be repeated.

OF THE PALSY.

1. THE palsy is a total deprivation or diminution, either of the motion or the sense of feeling in the affected parts, or of only one of them.

2. Two scruples of the lesser pil. cochix must be exhibited every other day for six days, and afterwards two drams of the antiscorbutic electuary, with six spoonfuls of the antiscorbutic water hereafter prescribed for a scurvy, thrice a day, for the space of thirty days.

Take of the nerve ointment, three ounces; compound spirit of lavender, and spirit of scurvy grass, each an ounce and half; mix them together for a liniment, with which the affected parts, as the spine, &c. are to be anointed morning and night.

3. Most of the remedies we shall there set down, though they should seem appropriated only to the cure of the scurvy, yet inasmuch as they are best adapted to volatilize crude and fixed humours, are likewise proper in the palsy.

OF A COUGH AND A CONSUMPTION.

1. A COUGH discovers itself; but a consumption attacks persons from eighteen to thirty-five years of age, the signs of which are, a wasting of all the parts of the body;—a hectic fever, discoverable by the quickness of the pulse, flushing of the cheeks, and its increasing after eating;—the matter expectorated by coughing is either bloody or purulent, sinks in water, and being thrown into the fire emits a fetid smell, and these symptoms are succeeded by night sweats;—a lividness of the cheeks at length;—paleness of the face, and sharpness of the nose;—sinking of the temples;—incurvation of the nails;—falling of the hair, and a colliquative looseness; which latter symptoms foreshow immediate death.

2. If the cough be recent, and unattended with a fever, or the other concomitants of a bastard peripneumony, and does not succeed a pleurisy or peripneumony ill cured for want of sufficient bleeding, the patient need only forbear wine and flesh, and use the following remedies at pleasure:

3. Let ten drops of balsam of sulphur with oil of aniseed be taken in a small spoonful of fine sugar, twice or thrice a day, and one of the following troches often, which should be carried in the pocket for this purpose:

Take of sugar candy, a pound and half; boil it in a requisite proportion of common water till it sticks to the ends of the fingers; then add powder of liquorice, elecampane, aniseed, and angelica, of each half an ounce; powder of Florentine orice root, and flour of sulphur, each two drams; oil of aniseed, two scruples; mix them together according to the rules of art, and make them into troches, to be entitled family troches.

4. The following linctus should be used at the same time:

Take of the oil of sweet almonds, two ounces; syrup of maiden-hair and violets, of each an ounce; sugar candy, enough to make them into a linctus, to be taken frequently off a liquorice stick, when the cough is troublesome.

5. If the matter expectorated be thin, an incrassating linctus should be exhibited.

6. But if the cough yields not to this treatment, and especially if it be attended with a fever, or succeeds a pleurisy, or peripneumony, it would be trifling to trust to pectorals, inasmuch as it must be cured by bleeding and purging, according to the method above delivered for the cure of the bastard peripneumony.

7. And if notwithstanding this procedure, the cough does not only continue troublesome, but by long shaking the lungs has weakened them so much, as at length to cause a consumption, recourse is to be had to the following method :

8. Give ten drops of balsam of Peru, in a spoonful of syrup of ground ivy, or, if that be disagreeable, in a spoonful of sugar, thrice a day, with four ounces of the bitter decoction without purgatives after it, or only three ounces, if the former quantity open the body.

9. But the best remedy hitherto discovered in this case, is riding sufficiently long journeys on horseback, provided this exercise be long enough continued : observing that the middle aged must persist in it much longer than children, or young persons. For, in reality, the Peruvian bark is not more certainly curative of an intermittent fever, than riding is of a consumption, at this time of life.

OF THE SCURVY.

1. THE scurvy is accompanied with spontaneous lassitude ;—heaviness ;—difficulty of breathing, especially after exercise ;—rottenness of the gums ;—fetid breath ;—frequent bleeding at the nose ;—difficulty of walking ;—a swelling sometimes, and sometimes a wasting of the legs, on which spots always appear, that are either livid, or of a lead, yellow, or purple colour, and a sallow complexion.

2. Let eight ounces of blood be taken away from the arm, provided there be no sign of a dropsy, and next morning give my common purging potion, and repeat it a third time, interposing three days between each time of taking it.

3. On the intermediate days of purging, let the following medicines be taken, and the use of them continued for a month or two afterwards.

Take of the conserve of garden scurvy grass, two ounces ; conserve of wood sorrel, an ounce ; compound powder of wake robin, six drams ; syrup of oranges, enough to make them into an electuary, of which let the quantity of a large nutmeg be taken every morning, at five in the afternoon, and at night, with six spoonfuls of compound horseradish water, or the following distilled water after it :

Take of the root of horseradish, sliced thin, two pounds; the root of wake-robin, a pound; the leaves of garden scurvy grass, twelve handfuls; mint, sage, water cresses, and brook lime, of each six handfuls; scurvy grass seed, a little bruised, half a pound; nutmegs half an ounce; white wine, six quarts; draw off only three quarts for use in a common still.

4. Or distil scurvy grass, fresh gathered, for the same purpose. The patient ought likewise to use the following medicated beer for common drink:

Take of the root of horseradish, fresh gathered, two drams; twelve leaves of scurvy grass, six raisins stoned, and half a Seville orange; bruise and slice the ingredients, and infuse them in a large glass vessel, well corked, in a quart of small beer.

5. Let six bottles of this beer be made at one time, and in a few days, before it be finished, six more, and renew them for the future in the same manner.

6. Or instead of this beer, three or four spoonfuls of the following mixture may be added to every draught of the patient's common drink:

Take of the root of horseradish, and the seeds of scurvy grass, of each half an ounce; the leaves of scurvy grass, two handfuls; and a Seville orange without the peel; bruise them together in a marble mortar, pouring thereon by degrees half a pint of white wine; and afterwards press out the liquor gently and set it by for use.

7. The same remedies are likewise very beneficial in the scorbutic, or hysteric rheumatism, except bleeding and purging, which must not be used in these distempers.

OF THE GOUT.

1. THIS distemper comes towards the latter end of January, or the beginning of February, and begins commonly about two in the morning, with a pain in the great toe, but sometimes in the heel, the ancle, or the calf of the leg; immediately, a chillness, shivering, and slight fever succeed, the pain increases gradually every hour, and the chilness and shivering abate in proportion as the pain grows more severe, which at length comes to

its height towards night, sometimes resembling a violent tension, sometimes the gnawing of a dog, and sometimes a weight and constriction of the parts affected, which becomes so exquisitely painful, that the patient cannot bear the weight of the cloaths upon it, nor the shaking of the room from a person's walking briskly therein. The pain does not abate till two or three the next morning, that is, in twenty-four hours from the beginning of the fit, when the patient being in a breathing sweat, falls asleep, and at waking finds the pain much abated, and the part affected newly swelled. A slight pain is felt next day, and sometimes the two or three following days, which increases towards evening, and remits towards break of day. In a few days it seizes the other foot in the same manner, and after attacking both feet, the subsequent fits prove irregular both with respect to the time of seizure and their duration; and what we term a fit of the gout is made up of a number of these small fits, and goes off sooner or later, according to the age of the patient. Thus for instance, in strong constitutions, and such as seldom have the gout, the fit often goes off in a fortnight; but in the aged, and those that have frequent returns of the disease, it lasts two months; and in such as are more debilitated, either with age or the long continuance of the distemper, the fit does not go off till the summer advances, which drives it away.

2. During the first fortnight the urine is high coloured, and lets fall a red gravelly sediment, and the patient is usually costive. A loss of appetite, and a chilness of the whole body towards evening, accompany the fit throughout; and when it is going off, a violent itching seizes the affected foot between the toes, and afterwards the skin of it peels off by scales.

3. In this state of the distemper the pain only affects the foot; but when the gout is exasperated either by wrong management, or long continuance, so that the substance of the body is in a manner changed into gouty matter, it then seizes the hands, wrists, elbows, knees, and other parts; sometimes rendering one or more fingers crooked, by degrees destroying their motion, and forming at length stony concretions in the ligaments of the joints, like chalk, or crabs eyes. Sometimes it occasions a whitish swelling upon the elbow, almost as large as an egg, which gradually inflames and grows red. Sometimes it seizes the thigh, which seems to sustain a great weight, yet without much pain, and thence gaining the knee, attacks that part more violently, and the limbs are now so contracted and disabled, that the patient halts with pain. The urine resembles that which is voided in a diabetes, and the back and other parts itch much towards bed time.

4. After many severe fits, the subsequent fits are less painful, nature being partly oppressed by the large quantity of peccant

matter, and partly by old age ; but instead of the usual outward pain, the patient is siezed with a sickness at the stomach, pain in the belly, spontaneous lassitude, and sometimes a tendency to a looseness. Upon the return of the pain into the joints the symptoms go off, and the pain and sickness coming thus by turns, prolong the fit considerably.

5. In many persons the gout breeds the stone in the kidneys. It seldom attacks women, and only the aged of this sex, and those of a masculine habit of body. Children and young persons rarely have it.

6. The curative indication consists in strengthening the digestive powers, having first carried off the foul humours, and this is done either by medicine, diet, or exercise, or any other of the non-naturals.

7. Bleeding, purging, and sweating do not answer the end ; though in such as have the stone in the kidneys, and in consequence thereof make bloody urine, it is proper to open the body once a week with a dose of manna, and exhibit an opiate in the evening after the operation.

8. The medicines that answer the above-mentioned intention, are such as are moderately heating, and are either bitter, or of a mild pungent taste. For instance, the roots of angelica, and elecampane, the leaves of wormwood, the lesser centaury, germander, ground pine, and the like ; whereto may be added such as are entitled antiscorbutics, as horseradish root, garden scurvy grass, water cresses, and the like : but these, as they agitate the morbid matter, and increase the heat, must be used more sparingly than the former, which by their mild heat and bitterness strengthen the stomach. The following electuary and distilled water are no contemptible medicines :

Take of the conserve of garden scurvy grass, an ounce and half ; the conserves of Roman wormwood, and orange peel, of each an ounce ; candied angelica and nutmeg, each half an ounce ; Venice treacle, three drams ; compound powder of wake robin, two drams ; syrup of orange, enough to make the whole into an electuary ; two drams of which are to be taken twice a day, with five or six spoonfuls of the following distilled water after it :

Take of horseradish root, sliced, three ounces ; garden scurvy grass, twelve handfuls ; water cresses, brook lime, sage, and mint, of each four handfuls ; the peel of six oranges ; and two nutmegs bruised ; Brunswick beer, or mum, six quarts ; draw off only three quarts, for use, by the common still.

9. These digestive medicines are to be taken daily with great exactness, and especially in the intervals of the fits.

10. Such a moderation should be observed in point of diet, as, on the one hand, to avoid eating more than the stomach can digest, and on the other hand, not to be so over abstemious, as to rob the parts of the proportion of nourishment requisite to keep up the strength. As to the quality of the food, the patient's palate is to be consulted, but he ought to eat only of one kind at a meal; as to the rest, excepting flesh, he may eat other things at pleasure, provided they are not acid, salted, or high seasoned. As to the time of eating, it is best to be content with a dinner only, and instead of a supper, to drink a draught of small beer, which is preventative of the growth of the stone.

11. The best liquors for gouty persons are such as are weaker than wine, and not so weak as water, lest they hurt the stomach by their coldness. Of this kind is our small beer, or wine diluted well with water, for water by itself is pernicious: but when the whole substance of the body is in a manner degenerated into the gout, the patient should forbear all fermented liquors, even of the softest and smallest kind, and use the following diet drink for common drink; beginning with it immediately after the fit is gone off, and continuing it for the remainder of life:

Take of sarsaparilla, six ounces; sassafras wood, China root, and the shavings of hartshorn, each two ounces; liquorice root, an ounce; boil them together in two gallons of spring water for the space of half an hour, and afterwards infuse them upon hot ashes, close covered, for twelve hours; then boil them till a third part of the liquor is exhaled; and as soon as it is taken off the fire, infuse therein half an ounce of aniseeds for two hours; strain it off; and lastly, let it rest, till it grows clear, and bottle it for use.

12. But if the patient, either from a long continued and over free use of strong liquors,—from old age, or extreme weakness, cannot digest his food without wine, he may drink a glass of Spanish wine at meals, and leave off the diet drink.

13. The patient should both go to bed and rise early, especially in winter, keep his mind easy, and avoid too much application to study and business.

14. But the best remedy is moderate exercise, daily used: as to the kind, riding on horseback, or in a coach in a healthy air, is to be preferred, if not contra-indicated by age, or the stone. Venereal pleasures must not be indulged, and all outward applications should be forborn.

15. But though nothing of moment must be attempted in the fit, yet the patient should forbear flesh for a few days in the beginning of it, and instead thereof use water gruel, or the like aliment; but if the spirits are subject to be disordered, the patient

should refrain flesh no longer than the stomach is set against it; but he must carefully guard against all errors in the quantity or quality of the diet.

16. The symptoms endangering life must be relieved; the most frequent of which are, the faintness of the stomach, attended with gripings, as if occasioned by wind; in which case nothing is so effectual as a small draught of canary now and then, using exercise at the same time. But if some violent symptom threatens immediate death, (provided the head be not affected) we must have recourse to laudanum directly, exhibiting twenty drops of it in a small draught of plague water, and the patient must compose himself to rest in bed. But if, through some error committed in the use of the non-naturals, a violent sickness at stomach succeeds, with vomitings and gripings, and the limbs at this time, from the striking in of the morbid matter, are free from pain, and better disposed to motion than ordinary, the following method is to be used, which formerly snatched me from imminent death. Let the patient drink a gallon of posset drink, or small beer, and as soon as it is all thrown up again by vomiting, give him a small draught of canary, with eighteen drops of laudanum in it. And if the symptoms yield not to this treatment, let a sweat be raised morning and night for two or three days running, and kept up for two or three hours at a time, by a method and medicines adapted to procure it.

17. A translation of the morbid matter to the lungs, the limbs in the mean time being freed from the pain and swelling, is to be treated like a true peripneumony, viz. by repeated bleeding, cooling and thickening medicines, and a regimen of the same kind, and purging with lenient purgatives in the intervals of bleeding: but raising a sweat is prejudicial in this case.

OF A CONSUMPTION.

1. THERE are several kinds of consumption. The first mostly arises from taking cold in winter; abundance of persons being seized with a cough upon the coming in of cold weather, a little before the winter solstice, which happening to such as have naturally weak lungs, these parts must needs be still more weakened by frequent fits of coughing, and become so diseased at length hereby, as to be utterly unable to assimilate their proper nourishment. Hence a copious crude phlegm is collected, which by the continual agitation of the lungs, occasioned by the vehement cough accompanying this distemper, is plentifully expectorated. The lungs being hereby supplied with purulent matter, taint the whole mass of blood therewith, whence arises a putrid fever, the fit whereof comes towards evening, and goes off towards morning with profuse and debilitating sweats. Lastly,

to close the scene, a looseness succeeds, occasioned partly by corrupt humours, discharged from the mesenteric arteries into the intestines, and deposited there, and partly by the weakened tone of the viscera; and thus the patient perishes at length the following summer by a distemper occasioned by the foregoing winter. And this is the principal kind of this disease.

2. Moreover, as the blood in winter abounds with moist particles, and perspiration is too much checked by the sudden contraction of the pores, these particles insinuate themselves into the lungs, through the ramifications of the arterial vein, or pulmonary artery, which runs through the whole substance of the lungs, or are discharged by the salival ducts, and deposited in the glands of the throat, whence the humour being now fallen through the *aspera arteria* upon the lungs, irritates these parts continually, like a catarrh, and the frequent and violent fits of coughing soon cause the weakness and other symptoms above enumerated. And when the lungs lose their natural tone, tubercles ordinarily breed therein, which, upon viewing the lungs of those that perish by this distemper, generally appear filled with a purulent matter.

3. When this disease is confirmed, it for the most part proves incurable. The cure, however, may be attempted, by lessening the cause of the defluxion upon the lungs, by bleeding and mild purgatives, joined with pectorals suited to the different states of the disease: for instance, exhibiting *incrassants* when the humour is too thin to be expectorated, and *attenuants* when it is thick, and expectorated with difficulty.—The hectic fever must likewise be checked by cooling medicines; such as asses milk, milk water, emulsions made of sweet almonds, the seeds of melons, pumpkins, and white poppies, cowslip flower water, and the like.—Lastly, the cure of the ulcer must be undertaken; for which purpose the liquid turpentine, vulgarly called *opobalsamum*, is esteemed an excellent remedy.

4. The cure of this disease, in my opinion, is most successfully attempted in the following manner:—First bleed in the arm, then purge three days with the greater pil. *cochiæ*, or my common purging potion, and the third night give half an ounce of syrup of white poppies.—After an interval of two or three days give another purge, and repeat it as often as there is occasion, till the symptoms either go quite off, or at least abate.—After the operation of every purge, let the patient take twenty drops of *opobalsamum* upon a piece of fine sugar, without drinking after it, or a pill made of Chio turpentine, and fine sugar: but *opobalsamum* is not to be used unless suitable evacuations have been previously made. An electuary may be substituted instead of it, made of Locatellus's balsam, liquorice powder, aniseeds, and turpentine.—After using evacuations, care must be had to abate the cough,

for fear the lungs should be weakened by the continual agitation thereby caused. And for this purpose syrup of white poppies is the best remedy, and may be administered in the following form :

Take of the pectoral decoction, a pint; syrup of white poppies, and maiden hair, of each two ounces; mix them together, and let five spoonfuls be taken three times a day.

5. This medicine being frequently used, will abate the defluxion upon the lungs in some measure, and help to recover their former tone, unless the weakness has been of a long standing, and will likewise promote the concoction of the purulent matter lodged therein.

6. But the principal assistant in the cure of this disease is riding on horseback every day, insomuch that whoever has recourse to this exercise in order to his cure, need not to be tied down to observe any rules in point of diet, nor be debarred any kind of solid or liquid aliment, as the cure depends wholly upon exercise. Some persons that have been recovered by this method, have been siezed with a tumour in the neck, not much unlike those in the king's evil.

7. 2. There is another kind of consumption, proceeding from a cough, which comes at a different season of the year, namely, at the beginning of summer, and frequently attacks young persons of weakly constitutions, whose blood is over-stocked with hot acrimonious particles. Having over-heated themselves by drinking wine too freely, they force up blood from the lungs by coughing, and feel a slight sort of pain in those parts: and these symptoms not being removed in due time by proper remedies, first an hoarseness, and soon after an ulcer is generated in the lungs, whence pus is at length expectorated.

8. This kind of consumption is easily cured, at least in the beginning, by bleeding and purging twice alternately, along with a cooling and thickening diet, and a total abstinence from flesh.

9. 3. The third kind of this distemper arises from the translation of febrile matter to the lungs in the declension of a fever, which being more debilitated hereby, are attacked with the symptoms just enumerated.

10. Sometimes a consumption proceeds from the purulent matter left behind in a pleurisy, for want of having been plentifully enough expectorated, and requires the same treatment as an epyema.

11. 4. Those that have been weakened by immoderate and too frequent evacuations are seized with a fourth kind of consumption, in which a hectic fever comes every night after supper; and these persons are most subject to aphthæ.

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